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The MODERN HOSPITAL

Vol. X April, 1918 No. 1

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Syringe	A	contains	0.0025	mg.	pollen	protein	nitrogen
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"	C	"	0.01	"	"	"	"
"	D	"	0.02	"	"	"	"
"	E	"	0.04	"	"	"	"
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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

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SOLDIERS AND THE CIVIL HOSPITALS

Shall Civil Hospitals Be Used for the Care of Military Patients?—Confusion of Three Distinct Problems—Necessity of Conserving Money and Effort in the Care of Military Patients

By S. S. GOLDWATER, M.D., New York, Chairman War Service Committee American Hospital Association; Chairman Mayor's Committee on Hospital and Medical Facilities, New York City; Consultant Health and Hospitals, Board of Estimate and Apportionment, New York City.

SHOULD the civil hospitals in this country be used for the care of military patients, and, if so, under what circumstances?

Immediately after our entrance into the war the Medical Department of the army announced that soldiers would not be sent to civil hospitals "except in emergencies." That emergencies were expected to arise was shown by an official questionnaire requesting information concerning the capacity and equipment of civil hospitals, their willingness to accept such military patients as might be assigned to them, and the terms on which officers and enlisted men, respectively, would be received. Within a short time invalided soldiers and sailors were seen in a number of civil hospitals, side by side with other patients. In February, 1918, the New York State Committee, Medical Section, Council of National Defense, ascertained that forty-six civil hospitals in the state were caring for patients for either the army or navy; a minority of these came from the army, a majority from the navy. The extent of the use of civil hospitals by the navy is indicated by the fact that up to the present time about $50,000 has passed through the hands of the Mayor's Committee on Hospital and Medical Facilities in compensation for the care of navy cases in municipal and private hospitals in New York city. In Philadelphia, Boston, and elsewhere the navy has utilized freely the resources of civil hospitals.

In the discussion of the use of civil hospitals by the Government there has been much confusion because of a failure to separate three distinct problems. Army men are heard declaring that it is impossible for civil hospitals to care for sick soldiers because civilian doctors have had no military training, know nothing of military needs, and are incapable of deciding whether a soldier who has been physically incapacitated either by injury or illness is fit to resume his place in the ranks—an argument that applies especially to conditions at or near the front. Other exponents of army policy point out that the number of sick in the cantonments is so enormous that, even where the cantonments are located in the neighborhood of cities, nearby civil hospitals are powerless to deal with the situation; they point out, in addition, that a certain proportion of the cantonments are so far removed from important centers of population that the transfer of the sick from such cantonments to the nearest available hospitals is impracticable. Meanwhile the advocates of the use of civil hospitals are thinking neither of conditions in France, where there are no available civil hospitals, nor of the cantonment sick, but of quite another problem—namely, the care of men incapacitated by disease or injury for service with the fighting forces, men who would appear to be an incumbrance to the army and a burden to its Medical Department. The Medical Department of our army, however, does not appear to share the opinion which, according to a current story, was vigorously expressed by the Medical Commandant in whose district the first shipload of derelicts from France arrived in Canada, and who flatly declined to have anything

to do with them on the ground that his services could be more profitably employed in the preparation of men for the fighting line. In the opinion of this army physician the time of military officers would be wasted if devoted to the care of physical wrecks returned from France, this being a job for a civilian, not a military man.

The civil hospitals, in the words of an official communication from Washington, "cannot be counted on to relieve the Medical Department of the necessity of providing additional hospital facilities." The army proposes that men "returning from abroad" shall be "cared for in special military hospitals." But the question at issue is whether this is the best way of caring for these men—a question which the national administration should seriously consider. On this point the Honorary Secretaries of the British Hospitals Association, on February 5, 1918, declared that "disabled soldiers and sailors are entitled to the best treatment that their country can provide," and that they believed "that that treatment is to be found in, or in connection with, the voluntary hospitals." It is significant that this declaration was publicly made in connection with the promulgation of an agreement between the British Hospitals Association and the British Government for the treatment of disabled soldiers and sailors sent to the civil hospitals by or in behalf of the Ministry of Pensions.

That additional hospital facilities must be provided by the Government is obvious; civil hospitals cannot "relieve" the Government of this necessity, but the extension and development of existing civil hospitals and sanatoriums under government direction, in accordance with a Government program, and with the support of Government funds, may conceivably be a better way of providing the additional facilities required than the purchase of hospital sites in localities remote from the centers of population, and the erection, upon such sites, of costly "special military hospitals" which are likely to experience difficulty in obtaining competent staffs, and still greater difficulty in retaining desirable men in the service of the Government after the war.

Early in February, in a memorandum submitted to Surgeon General Gorgas, by his request, on behalf of the War Service Committee of the American Hospital Association, it was proposed that the Medical Department undertake immediately a study of the conditions under which and the extent to which civil hospitals could best be utilized for army purposes. The War Service Committee asked that this study be systematic, and suggested that it should include consideration of the problem, first, from the standpoint of general administration, embracing such questions as the duplication of plant and equipment, and the availability of administrative personnel; second, from the standpoint of medical administration, including a thorough analysis of all of the difficult problems of medical organization and especially the problem of acquiring a fit corps of physicians during and their retention after the war; and third, from the standpoint of nursing, in which field there are many special problems which demand painstaking investigation and careful planning.

Has the Medical Department actually made such a study? Is its present policy founded on adequate knowledge of its present and future needs, and of the resources of the country, or on habit and tradition? Has the army studied impartially, and is it today being guided in any degree by the recent experience of Canada and Great Britain? Is the Government concerned at all for the effective maintenance of the civil hospitals, or is it willing to drain these hospitals of their personnel and other resources in order to build up huge and possibly unnecessary hospital machinery to be operated under army auspices?

Is there anything suggestive in Canadian experience? For example, to what extent are the civil hospitals in Canada now caring for military patients? Is the practice of assigning military patients to civil hospitals in Canada increasing or decreasing, and why? What circumstances led to the use of civil hospitals in Canada for patients of this description? Has there been and is there now any popular demand for the assignment of military patients to civil hospitals in Canada? These questions were recently addressed by the writer to the Military Hospitals Commission Command at Ottowa. From a reply, which is too lengthy to reproduce in full, I quote the following:

"On February 8 there were 7,213 soldiers who were being treated as in-patients in the Dominion. The number in general civil hospitals was 418; but these figures do not cover men suffering from tuberculosis, who are treated in civil sanatoriums. Of the 22 sanatoriums at present used by the Commission, 13 continue to take care of the needs of the local civilian population. With regard to the insane, practically every provincial institution in the country receives military patients when it has accommodations for them. The Commission also operates its own asylum. The practice of assigning military patients to civil hospitals has up to the present been on the increase, and, as the Commission is not retaining institutions for its exclusive use in all centers, it is likely that they will have to make use to an even greater extent of the local civil hospitals—at any rate, for a time. In the early days, when patients were returned to Canada, they were nearly all convalescent; at a later date the authorities overeas commenced to send back active treatment cases, which which were distributed throughout the Dominion, *it hav-*

ing been found very difficult to divert a man to a surgical center, owing to his desire to be treated in his home district and also owing to popular demand. The great bulk of the patients placed in the civil hospitals are those who come back as convalescents and whose disabilities afterward increase, necessitating hospital treatment. If such men happen to be in a district where there is no Military Hospitals Commission Active Treatment Hospital, the only resort is to the local civil hospital."

In a communication dated February 21 Secretary Baker stated that "the cooperation of civil hospitals is a question requiring further study to determine the extent to which civil hospitals are to be used." We trust that this study was undertaken promptly, and that it is being prosecuted vigorously and open-mindedly.

The army cannot afford to spend money for the construction of unnecessary buildings. It ought not to make a single serious blunder in the location of a "special military hospital." It cannot intend to erect costly sanatoriums to which soldiers returning from the other side will prefer not to go because of the distance of such sanatoriums from their homes.

The army cannot afford to establish "special military hospials" anywhere, for any purpose, unless it can place and keep in such hospitals competent staffs. It ought not to break up the clinical and nursing organizations of the civil hospitals for any reason less imperious than sheer military necessity. It cannot and, unless we are greatly mistaken in Secretary Baker, in General Gorgas, and in the men with whom General Gorgas has surrounded himself, it will not desire to adhere to any policy which runs counter to the principles of conservation, or which tends to lower national efficiency during or after the war.

HOSPITAL SCHOOLS FOR CRIPPLED SOLDIERS

Disadvantages of the Old Pension System—Economic Rehabilitation of the Disabled Man a Modern Idea—French, English, Italian, German, and Canadian Methods —Duty of Improving on European Methods in the United States

By DOUGLAS C. McMURTRIE, New York, Director Red Cross Institute for Crippled and Disabled Men, President Federation of Associations for Cripples, Editor American Journal of Care for Cripples.

WE may as well confess to having failed, in the past, in the after-care of the crippled soldier. With an arm amputated at a field hospital, the best the man could hope for was treatment of the stump until it healed, provision of some makeshift artificial member, and the award of a pension. This latter was too niggardly to provide for decent support, and it generally left a seriously disabled man semidependent on relatives or friends, or slated him to become an inmate of a soldiers' home. In any event, the pention system, taken alone, promoted idleness, which, in turn, led often to intemperance or vagrancy. The governmental principle was that the wounded soldier was entitled to support by the community for the rest of his days, and the men themselves subscribed only too heartily to this pernicious theory.

The idea that the disabled man should be rehabilitated economically and socially is one of comparatively recent origin. Every surgeon, every hospital director, and every social service nurse will recall patients who had to be discharged without having been put in shape to face life again, simply because neither the hospital nor the local community provided facilities for putting these men "back on their feet."

With the increase of machine processes in industry, the number of work accidents has greatly increased. In Canada today, after three years of war, there are more industrial cripples than disabled soldiers. So the civilian aspect of the problem is of as great importance as the military, and the improvement in the care of disabled men brought about in a time of war must be continued and made permanent.

The new conception is that the cripple must again be made useful, and, although prevented by his handicap from pursuing his former trade, must be trained for a new one in which his disability is no handicap. The man who has lost his legs must be trained for work which can be performed with the use of the hands alone while he is seated. The one-armed cripple must be instructed in a trade in which one good arm and a prosthetic appliance on the stump of the other will suffice. A cripple is a cripple only in the sense that he cannot perform the duties of his daily life. If these duties can be chosen to fit his range of capability, his handicap literally disappears. As one European writer vividly puts it: "There are no more cripples." Though physically disabled, they have been made socially and economically whole.

Early in the course of his treatment at a base hospital, the crippled soldier's interest in life is again aroused by simple forms of occupation, which serve therapeutically as well to hasten his

recovery. This work is quite distinct from the vocational rehabilitation which is undertaken at a later stage, but the two should be related as closely as possible. The earlier work often discloses unsuspected talents and aptitudes and, in some instances, it can be made to dovetail with the more serious subsequent training.

As the physical condition improves, the vocational work is taken up. A difficult task here introduced is to enlist the soldier's interest and enthusiasm, so that he enters on the course of his own free will. When training is not voluntary, it is not effective, for, though a man can be ordered to a classroom, he cannot be made receptive. The

Fig. 1. Both arms gone, but prepared by working prostheses to return to his farm.

man's confidence and friendship must be gained; his discouragement overcome. In the latter effort, the records of cripples who have made good are the greatest help. In Germany there is being published a three-volume work under the title, "The Will Prevails," containing autobiographies of disabled men. In this country, the Surgeon General's Office is preparing moving picture films of cripples who have overcome their handicaps, the reels to be exhibited to wounded men early in their hospital career.

In the present inflation of the labor market, even disabled men may be able to obtain temporary jobs at high wages, from which, however, they would be displaced at the end of the war. This constitutes a great temptation to the men to refuse the training opportunity. They must, of course, be shown the future consequences and brought, if possible, to make the right decision.

In selecting trades in which instruction is to be given, there should be sought those fulfilling the following conditions:

1. Of standard character, in which the employment opportunities are numerous.
2. Trades which are growing rather than on the wane.
3. Trades which are not likely to slump at the close of the war.
4. Those not subject to seasonal variation of employment.
5. Those in which the wage scale is reasonably high, and which, therefore, repay the time and effort expended in training.
6. Trades which can be taught satisfactorily within a reasonable tuition period to the pupil of average intelligence and capacity. This condition may exclude some of the crafts, success in which is dependent on artistic genius rather than workmanship.

In picking out the trade in which an individual cripple is to be instructed, the first limitations will be indicated by the type of his handicap. Within the possible range, the man's personal preference should be consulted, so that he may be as contented as possible in taking up his new work. But the most important determinative factor consists in his past experience. The greater part of an adult's education has been gained in the course of his employment, and, in planning for the future, this former experience must be conserved and built upon rather than discarded. The man's reeducation should not start from the beginning, but should be a course post-graduate to his practical training. Thus, a crippled train-hand should not be put in a printing shop when he can be taught telegraphy and put back again in the railroad world; a crippled printer should not be taught telegraphy when he can be prepared for the work of a proofreader.

So much for the general principles of rehabilitation. The actual work is carried on under two broad classifications which the French would designate respectively as the *externat* and the *internat*. In the first instance, the war cripple gets his medical and surgical care in one institution, and his training (usually later) at a vocational school. Under the second plan, hospital and industrial school are combined, and, so far as possible, medical care and vocational training go forward at the same time. The most intelligent conception of this

method is to be gained from a description of representative institutions assuming this double function of hospital and school.

One of the most interesting is the "Institut National Professionnel des Invalides de la Guerre," which the French government maintains just outside Paris under the direction of Dr. Maurice Bourillon. Overlooking a pleasant park, is the military hospital proper, formerly the "Asile National des Convalescents de Saint-Maurice." This accommodates 700 patients. Close at hand, is the school building, occupied before the war by the Vacassy Institute, a training school for cripples of which Dr. Bourillon was director. The artificial limb supply for the hospital is produced in a work-

Fig. 2. Prof. Hoeftmann, of Berlin, a celebrated authority on prosthesis, demonstrating a patient with two artificial arms and two artificial feet.

shop managed by an army officer, who was formerly a member of a surgical instrument firm. His workmen are not cripples, but soldiers on active duty, under military rule and pay.

The school can give training to 200 men. This is as many as Dr. Bourillon thinks should be prepared at a time in any one institution. In addition to these, something over a hundred men are receiving training in Paris at trades which the curriculum of the school at Saint-Maurice does not cover. They are apprenticed to various Paris shops or placed in trade schools, and are supported by the Saint-Maurice administration. They are lodged in a comfortable dormitory and receive an allowance for meals outside.

Since French war cripples may take or reject training as they choose, and the majority so far have not taken advantage of it, the school at Saint-Maurice has sufficed not only for the patients in its own hospital, but for certain discharged soldiers and sailors from other hospitals. The percentage of men electing to be trained, however, has steadily grown.

Besides the primary educational classes, necessary to perhaps 2 percent of the men examined, the school offers courses in shoemaking, tailoring, harness-making, morocco-dressing, tinsmithing, automobile construction, the operation and repairing of agricultural tractors, architectural design, simple accounting, and typewriting. The men living at the Paris annex are learning to be furriers, jewelers, hair-dressers, agricultural mechanics, dental mechanics, linotype operators, carpenters, opticians, photographers, office workers, turners, book-binders, and wood-polishers.

The men attending the classes differ widely in nearly every respect. The nature of their various injuries, their differing ages, their previous experince, all prevent uniform class work. Pupils may enroll for a class at any time; they have had no special preparation for the school; and time is of vital importance. Through careful study made by master workmen of the trade unions of Paris, apprentice courses for nearly every trade have been shortened and bettered since the war. At Saint-Maurice, the teachers of tailoring, shoemaking, and other trades have been supplied by the trade unions.

Shoemaking is one of the most popular courses for men with leg injuries. Five months' training enables a man to make a living at repairing; eight months fits him to make books.

Dr. Bourillon reports that the tailoring course has not proved as well suited to the men as indications first promised. The time required, fifteen to eighteen months, is longer than most of them wish to train; and they find the work too minutely laborious.

Men with arm injuries are doing well at the course in designing. Special tools and instruments enable the one-handed man to do the work of a two-handed draughtsman. Within five or six weeks, a man can learn to make his left hand behave as well as the right hand which he has lost. A course in ornamental design had to be abandoned, since it demanded a keener artistic sense than the average pupil possessed; but building design and surveying lead to well-paying positions.

Agricultural mechanics, as a trade for crippled soldiers, is favored especially in France, where 65 percent of the army were agricultural workers before being called to arms. It will be necessary

to put as many of these as possible back on the land. Since the use of motors is now supplementing handwork, and men with leg injuries can learn to operate and repair tractors and other agricultural machinery, the question of employment for many disabled farm-workers is answered by courses such as the one offered at Saint-Maurice. The training includes, besides the operation, upkeep, and repair of stationary engines and tractors, a theoretical study of their construction, and the elements of mechanical theory and practice (dealing with the forge, vise, machine tools, soldering, etc.). It requires five months.

Fig. 3. These crippled Italian soldiers at Naples are being taught to walk—for the second time.

All pupils and apprentices at Saint-Maurice receive a daily wage of 50 centimes from the French government, except at such times as they are doing work to order for outside customers. In that case, they are paid their share of the profit. Half of their wage-money is paid to them every fifteen days; the other half is put aside for them until they leave the school.

In the first two years of the school, between May, 1915, and April 15, 1917, 923 war cripples enrolled for training. Of these, 120 gave up without completing their course; this left 803 to be reeducated; 499 had injuries of the leg, 258 of the arm, and 46 of the head, trunk, etc. Some of these had been transferred to other schools, and others had to be denied training on account of their physical condition; 719 were able to persist; 398 were placed in employment; 39 went back to their families after serving their apprenticeship; the whereabouts of 44 were not known; and 238 were still in school at the time of the report. Placement of graduates so far has been easy. Dr. Bourillon states that, on the whole, the men have found places at least as good as those they had before the war, and nearly always better—from all points of view.

The daily cost of administering the school is about 5.50 francs per capita.

The English system of hospital-schools differs somewhat from the French. Limbless English soldiers usually progress from one hospital to another, being treated at an orthopedic hospital,

Fig. 4. With the use of a special table to set over the bed, instruction in typewriting can be started at an early stage of recovery.

passing their time of convalescence at another, such as Queen Mary's Auxiliary Convalescent Hospital at Brighton, being fitted with artificial limbs at a third, and finally returning to an orthopedic hospital to await discharge. In all of these are workshops where either curative exercise and tools or definite vocational training can be had. After discharge from military service, men who wish to be trained to a trade and need such training are recommended for it and sent to a first-class technical school.

Queen Mary's Auxiliary Hospital at Roehampton is the great limb-fitting hospital for England, as that at Brighton is the principal convalescent hospital. Patients move up from Brighton to Roehampton. Practically the same vocational courses are offered in each place, so that a man may go ahead steadily with his training, and make ready for more advanced work at a polytechnic. Among the subjects offered are shoemaking, wood-work-

ing, electric wiring and other inside electrical work, motor mechanics, diamond-cutting, and office practice. Of these the work in electricity, motor mechanics, diamond-cutting, and commercial subjects prepare directly for skilled employment. The other courses require further post-graduate training.

The Princess Louise Scottish Hospital at Erskine House, just outside Glasgow, is a comparatively recent Scottish equivalent of Brighton and Roehampton. About one-half of its 200 patients are undergoing convalescent treatment; the other half are sent here for a few weeks only, to be fitted with artificial limbs. There is a limb factory, which at present is run on a commercial basis and employs able-bodied workmen. The school purposes to teach the trade to war cripples. There are classes in cobbling, basket-weaving, and wood and leather embossing, and a plan to establish courses in electricity and to train crippled miners as mine inspectors. The committee administering the hospital has been able to buy the fine old mansion house which the hospital occupies, as well as 360 acres of ground, and plans are being made beyond the duration of the war.

Fig. 5. Having lost one leg and one arm, this French soldier has been fitted to guide a plow.

The Military Orthopedic Hospital at Shepherd's Bush, London, uses its shops not so much for definite technical training as for the curative value of the work itself. When the idea of curative workshops was first worked out at Shepherd's Bush, work was offered to the patients instead of gymnastic exercises. Out of 700 possible candidates for work, 640 accepted it. A list was made of each man's pre-war occupation and from this, shops were set up and equipped with machines and tools; as far as possible every man was employed at his own trade. The work given him was always adapted to the exercise his injury required. A soldier with a dropped foot found the right exercise working the treadle of a fret-saw machine. Another man, a tailor, with the same disability, was set to running a sewing machine. Most of the products turned out by the classes are for the hospital. The tailor shop makes the uniforms. The carpenter shop makes chairs, tables, and benches. The electrical class repairs the machines in the electrical department and the vibrators used in the massage department. Practically all the orthopedic appliances used at the hospital are made by the combined work of the leather workers, the blacksmiths, and the class for making artificial limbs. A number of men under the instruction of a non-commissioned officer have learned how to make cigarettes. Those who can purchase a cigarette-making machine at a small cost, can carry on a miniature independent business which will give them a livelihood. Another class has gained skill in the grinding of surgical instruments.

Military hospitals in Canada are under the control of the Military Hospitals Commission, a civilian body which has thoroughly organized the reconstruction work for disabled soldiers. All the hospitals have curative workshops, and complete technical training for a trade is offered to any war cripple who needs it. In many places, as in England, the more advanced work is given at a technical school or university. The military convalescent hospital in Montreal, popularly known as the Grey Nunnery, since before the war it was a hospital of the sisterhood of the Soeurs Grises, shows how the Canadian system works. In the hospital itself are elementary classes, courses in preparation for the civil service examinations, commercial classes, and shops for carpentry and

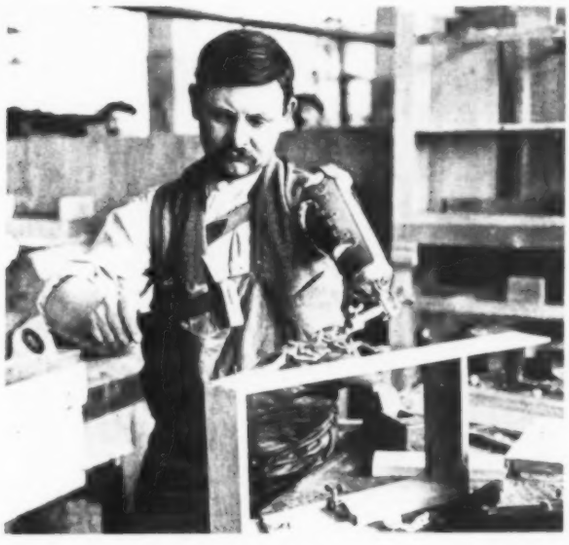


Fig. 6. A war cripple in Paris preparing for employment as a cabinet-maker.

shoemaking. Both these shops fill orders, and the pupils are paid their share of the profit. In six months a man is trained to earn a living by doing simple repairing or carpentry. For advanced trade courses the men are sent either to the machine shops at McGill University, where chipping, filing, and bench work are taught, or to the Montreal Technical School, where they train as carpenters, motor mechanics, and architectural workers. About 140 men were attending these classes

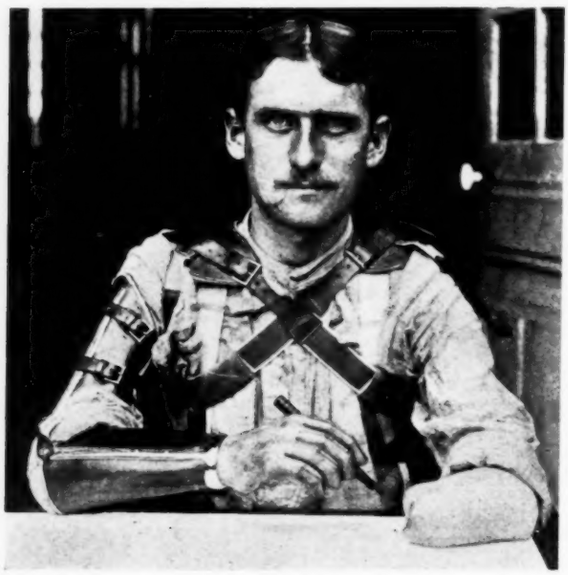


Fig. 7. Both arms off, but mechanically fitted and reeducationally trained for bookkeeping.

at the last report. All through Canada there has been a rush of war cripples to enter the courses in motor mechanics, and gas engineering. They have had to be restricted, to keep the balance of labor steady. But the fact that the men like this work goes to prove that the war cripple does not turn mollycoddle after his accident. Give him a choice of jobs and he will not chose the easiest, once his courage has been bucked.

The hospital school at Milan, the most extensive in Italy, was started immediately after Italy's entrance into the war and was modeled on the best French schools. The government pays regular board for the maintenance of the 700 patients, bears the expenses for artificial limbs, and allows each crippled soldier 20 cents a day for his work. The departments of the institution are the hospital proper, the elementary and commercial school, and the trade training school.

As soon as a patient is ready to begin training he is given a preliminary elementary examination in general educational subjects, and those who need it are taught to read and write. Many of the soldiers are peasants, and this is their first effort at book-learning.

After the men have been supplied with artificial limbs they are put through a series of laboratory tests to determine their working capacity. They are then given their choice of a trade, subject to expert advice. Since most of them come from little villages, trades must be chosen which are in demand at home and which can be practiced with small outlay. The trade-courses given are carpentry, tailoring, shoemaking, basketry, leather work, saddlery, wood-carving, wood inlay, the making of wooden shoes, broom-making and brush-making, mechanics, and orthopedic shoemaking. The trade-school is located in the suburbs of Milan and has large grounds, making possible courses in farming, poultry raising, bee-keeping, and dairy work.

The commercial course trains first for such simple commercial positions as shop clerk, hotel por-

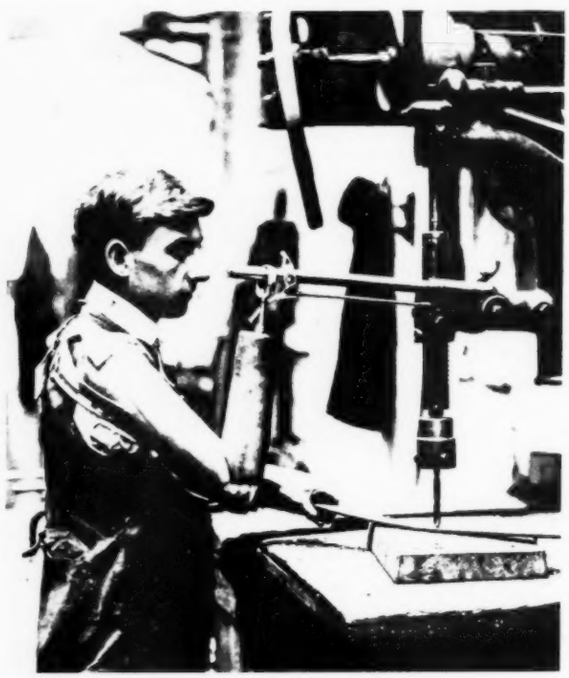


Fig. 8. Amputated at the shoulder, this English soldier is still rendering national service in the making of submarine fittings.

ter, or steward. A higher course prepares bookkeepers and stenographers. Besides these are special courses for postal and telegraph employees. A beginning has been made at teaching practical designing, for which there is a good field in the factories of Milan.

A typical German school is that of the Royal Orthopedic Reserve Hospital at Nuremberg, which has accommodation for 900 men. Three buildings of the Sebastian Hospital were taken over at the beginning of the war, class-rooms and twelve workshops were equipped, and a piece of land secured for training in agriculture. As in all German schools, a strong effort is made to fit the

patient back into his old trade, or to put one-armed men to work on the land. A special class for one-armed men gives them such hand-training as will overcome most of their disability. Wherever possible, crippled teachers have been selected for this school.

The courses train shoemakers, blacksmiths, locksmiths, makers of artificial limbs, printers, bookbinders, cabinet-makers, tailors, weavers, brush-makers, and designers.

The blacksmiths, locksmiths, and limb-makers combined make orthopedic appliances for the hospital: wrist bands for radial paralysis, celluloid

Fig. 9. An English soldier being trained as a laboratory attendant. He is attaching gold leaves to an electroscope, holding his work with an adjustable hook.

casings and braces from plaster casts. They also repair artificial limbs. The blacksmiths and locksmiths also make all tools required for the farm courses, and produce angle-irons, pipe-elbows, oil pumps, etc., to order. Money received for orders is turned into a fund to further work for war cripples.

Dr. Bruno Valentin, in a report on this school, tells how the men if left to themselves find ways of performing the work processes in which they were skillful before the war. A tailor could move only the thumb and forefinger of his working hand; the other fingers were bent down to his palm and his wrist was rigidly contracted. Nevertheless he found a way to handle his tools and keep on with his trade. Another man who had worked in an electrical plant was given work by this plant, while he was at the hospital, making parts for reflector arc lamps. He was unable to open his fingers and had a stiff elbow, but guided the file with the ball of his thumb and suffered only a small loss of efficiency.

Provision as adequate as that made for the war cripples of any of the other belligerent countries is being planned for the crippled soldiers of the American forces. The government has announced its intention to erect every necessary facility to ensure the rehabilitation of our disabled men and prevent their being in any way dependent on private charity. The Surgeon General of the Army is organizing reconstruction hospitals in which training shops will supplement the work of the medical staff. To provide specialized vocational education there will soon be created by Congress an interdepartmental commission. And lastly there will be established individual industrial schools for cripples which will assist in the execution of the national plan, by offering the use of special equipment and the services of an expert staff.

With the European experience ahead of us, the United States can acquit herself creditably only by improving on the work which has gone before. For the crippled men of the American forces we must break down the barriers of disability and put them back into civilian life as independent, respected, and useful members of the community.

St. Thomas's Hospital Speech Clinic

The speech clinic at St. Thomas's Hospital was established in March, 1914, and may now be considered to have passed out of the experimental stage, says *The Hospital*, London. It is linked up with all the other departments of the hospital, and has proved beyond doubt that its value is greatly enhanced by this connection. There are generally about fifty children attending the classes, and they are divided into seven groups: (1) senior boys; (2) junior boys; (3) girls (stammerers); (4) lispers; (5) chest cases; (6) mentally deficient in speech only; (7) cleft palate cases. Among these have been several cases of "aid-shocked children completely dumb, who have recovered through relaxation and reeducative exercises. Some interesting cases of voice and speech failure after severe internal operations, or after an accident, have given excellent results. Among the group of lispers are some cases of a form of lisping or lalling due to extreme nervous tension. They yield to very much the same form of treatment as stammering, but are among the most difficult of all to reach. Ordinary speech exercises only make matters worse. A group of little people who have never learnt to speak, despite ingenious efforts on the part of their families, begin to improve almost at once, and very soon take a keen interest in mothering the latest arrival and starting it on the path of progress. In one or two bad cases of cleft palate small children have been so discouraged by their failure to articulate clearly that they remain practically speechless, and grow awkward and sulky when they are corrected. These require an infinite amount of gentle and patient treatment.

THE ADMITTING SYSTEM IN USE AT THE MILWAUKEE CHILDREN'S HOSPITAL

Social Service Department in Charge of Admitting System—Advantages of Method—Satisfaction to Patients, Physicians, and Donors Through Increased Efficiency and Thoroughness

By HARRIET GAGE, Director of the Social Service Department of the Milwaukee Children's Hospital

NATURE AND SIZE OF HOSPITAL

THE Milwaukee Children's Hospital is a private charitable institution of sixty beds for the treatment of children's general diseases. The hospital has an out-patient department with daily clinics covering all departments of medicine. The various clinics are held at 8, 10, and 11 o'clock. There is a daily average attendance of thirty-two; the average number of new patients per day is seven.

OLD WAY OF ADMITTING

Up to September, 1916, patients were admitted as they are in most dispensaries and free hospitals, with only a surface questioning. Lack of time and lack of an experienced social investigator made more than this impossible. There had long been a feeling on the part of the administration that the efficiency and thoroughness of the medical care given demanded like qualities in the work of admitting. There was also a very natural questioning on the part of the staff and of other physicians in the city as to whether the hospital was really reaching those who most needed its help.

PRESENT SYSTEM OF ADMITTING—A FUNCTION OF THE SOCIAL SERVICE DEPARTMENT

In September, 1916, the admitting of new patients to wards and out-patient department, i. e., the decision as to their suitability or non-suitability for treatment, and the setting of hospital fees, if any, was made a function of the social service department. The work was placed in this department because the thoroughness of the new system called for social experience as well as some familiarity with medical work, the decision being based upon both social and medical data in each case. With a social worker at the registration desk it was thought, too, that much valuable information might be obtained and passed on to the physicians at the time of the patient's first examination. Also, the discovery of social needs during admitting would help the social service department to extend its usefulness.

Surname _____ Date _____
Address _____
O. P. D. No. _____ Household _____ Age _____ Employ _____ Earnings _____

Boarders or other income

Rent _____ Rooms _____ Landlord _____
Insurance _____ Car fare _____ Budget _____
Debts _____
Referred by _____ Family Physician _____
Relatives _____
Registration _____
Hosp. fee _____
Remarks _____ (Over)

Form of registration card used in the Milwaukee Children's Hospital; actual size.

REGISTRATION

After the admitting clerk has filled out the identification data on the cross-file card and on the medical record, the record is sent into the

proper clinic and the adult accompanying the patient is sent to the registration desk. This is placed in an office where there is quiet and privacy. The interview at this desk may take anywhere from five to twenty-five minutes, according to the complications of the social situation, language difficulty, initial reticence, etc. It is never hurried. If it cannot be completed before examination, it is completed afterwards.

FORM OF REGISTRATION CARD

The registration card used is shown in the illustration. This is a buff-colored, thin pasteboard measuring 4 by 6 inches. The back is blank for continuation of remarks. If the patient is asked to seek private medical care, the explanation of the disposition of the case is written in red ink. "Registration" on the card refers to the Confidential Exchange of Information, the central bureau with which all the city's social agencies and several of its medical agencies register all their cases. The returns from this registration are most valuable. For example, if the tuberculosis division of the board of health knows a patient's family, it is often possible to get to the physician information concerning the physical condition of other members of the household, or even a previous history of the patient himself, as an aid in diagnosis and plan of treatment.

STANDARDS OF ADMISSION

The standards of admission used at the Washington University Dispensary at St. Louis have been adopted. The following four groups have been considered suitable for admission:

A. Those financially unable to pay for medical services, who are suitable for admission for any condition at any time.

B. Those suitable for temporary admission because of financial disability.

C. Those suitable for admission for certain specialists' services or for chronic illness, but unsuitable for minor conditions.

D. Those referred for consultation by private physicians who send word that the patients are unable to pay consultation fees.

The scale of incomes made for the Washington University Dispensary has been used as a basis for determining the suitability of patients for admission.[1] These tables cannot, of course, be followed absolutely, as allowances must be made for difference in the character of communities, nationality of patients, changes in the cost of living, labor conditions, etc.

The financial situation is thoroughly investigated if there is doubt as to suitability for admission. The investigation includes consultation with other social agencies if it is found that the patient's family is known to them, verification of wages, consultation with family physician, home visits if necessary, and in a few cases the checking up of statements through public records of property owned. After a medical examination, which is never refused to any patient, *the finances are considered in relation to the treatment required and its approximate cost by a private physician.* Every patient who is asked to consult a private physician (if he has no family physician to advise him) is given a list of the medical staff of the department in which he would be treated were he a dispensary case.

A note is clipped to the medical record of each excluded patient, asking that he be sent to the registration desk should he again apply for treatment.

A note is attached also to the medical history of each patient in Groups B, C, and D, asking that he be referred again to the registrar when the medical service for which he was admitted, has been rendered. He is then given a list of physicians, or is sent back to his family physician, and a note is clipped to the medical record as in the case of the excluded patient. If he return at any time he will be reregistered and his admission will be considered in the light of a new ailment and perhaps a changed financial situation.

REREGISTRATION

Patients are to be reregistered once a year, or oftener in special cases. The name of each patient is listed under the date of registration. On the first of each month the list is consulted for the names of those patients who were registered one year previous. A rubber stamp reading "To be reregistered" is placed on the medical record, and upon the first visit thereafter the patient is referred to the registrar.

STATISTICS

For the year during which this system of admitting has been in operation, 1,563 new patients have been registered at the out-patient department and 186 at the hospital. There were no exclusions from the hospital. Of the out-patients, sixty-four, or 4.09 percent were excluded from all treatment; ten of these were sent back to their family physicians, fifty-one were referred to other physicians, and three were excluded after examination with no treatment necessary. There were seventeen partial exclusions—patients of Group C—and two patients of Group D. Exclusions are never final; the patient's parents are always made

[1] Veeder, Borden S.: Standards for Determining the Suitability of Patients for Admission to a Free Dispensary. Jour. Am. Med. Assn., V. LXVII, No. 2.

to feel that the hospital is ready at any time to go over again the question of suitability for treatment, and they are asked to return should they have financial reverses.

HOSPITAL FEES

The setting of fees does not enter into outpatient department admissions, as the charge per visit is 10 cents or nothing, the fee being remitted at the discretion of the registrar.

The decision as to the hospital fee is based upon the facts obtained through registration considered in the light of the probable length of stay. Of the 719 patients receiving hospital care during the year under consideration 75 percent were charged no fee. The weekly fee in some cases is as low as 50 cents. It is only in exceptional cases that the cost of the child's board is covered and no charge is ever made for the medical and surgical care.

ADVANTAGES OF THIS SYSTEM OF ADMITTING

1. An increased respect for the institution among the families of its patients as a place where truthful statements are demanded and where one is treated fairly.

2. A feeling of friendliness between the hospital and the patient's family established at the very beginning of their relationship.

3. The satisfaction to the staff of knowing that every patient who is admitted for treatment is in need of their free services. No physician questions a patient's financial circumstances in the ward or the clinic. If there should be any doubt in his mind as to suitability for admission, he has only to ask the registrar for the results of her inquiries, and then, if not satisfied, for another investigation.

4. An aid to the physician by furnishing medical and social information, helpful in diagnosis and plan for treatment.

5. A feeling of confidence on the part of physicians not on the staff that the hospital is treating only those unable to pay a physician's fee.

6. The satisfaction to donors to the hospital that their gifts are reaching those in need of help.

7. An increase in the receipts of the hospital from patients because the fixing and collecting of fees is on a sound basis.

8. A revealing of social situations in need of attention from the social service department, and a valuable means of social approach to the patient's family.

I think we should be bored to death with the regular course of the seasons were it not for the whimsicality of the weather. That saves us from suicide.—James Russell Lowell.

A SMALL DEMOCRACY IN AN INSANE WARD

An Inmate of the Watertown State Hospital Describes an Organization for Self-Government in One of the Wards

The *Institution Quarterly*, the official organ of the Public Welfare Service of Illinois, publishes in a recent issue the following little article written by an inmate of the Watertown State Hospital describing the manner in which one unit at the Watertown State Hospital is conducted by the patients themselves.

"At the Watertown State Hospital, under the surveillance and encouragement of the hospital administration, one will find setting a little removed in the background a wooden and cement building with a capacity of seventy-five inmates, Ward B-4, a true democracy at present writing.

"There are two vacancies, therefore seventy-three inmates, that are as nearly governing themselves with due respect to the rules of the institution as can be possible. Of course the shaving and hair-cutting is attended to by an employee, specialized for that class of work. A ward council composed of about six of the most trustworthy patients administer the detailed affairs of the ward. Cleanliness and sanitary conditions are a paramount issue. Some work in the dining room, some in the kitchen or are detailed upon the grounds, etc. In the summer a spacious front porch finds a good many enjoying the open air in the gloaming. Many a hot debate on war affairs has taken place here. Some of the boys read the newspapers and keep in touch with the affairs of the world. There are games of pastime. Ring-throwing furnishes a chance for animated competition. In the winter there is card-playing. A billiard table has done much to develop talent in that line. Some have become quite expert and the games would if witnessed arouse the interest of the professional manipulator of the cue.

"One of the inmates plays the piano fairly well and thus furnishes music occasionally during the evening hours of relaxation. The emancipation and initiation of the American citizen has a place here. Any individual suggestion pertaining to the ward affairs are discussed in the ward council. Irregularities, breaches of ordinary propriety of any inmate come under the ban of council deliberation.

"At a certain hour in the evening the hospital whistle blows and all must turn in. This ward has half an hour's grace. At 8:30 p. m. one of the council members makes the rounds of the dormitories to see whether all are in. The doors are being shut, but not locked, the lights nearly all turned off; ten minutes later all is quiet. The nights on the ward are almost invariably quiet and orderly. A sudden attack of sickness or symptoms of bodily ailment are promptly brought to the attention of the ward or emergency doctor.

"The wearing apparel comes under the inspection of the clothes man, generally one of the most trustworthy inmates. He in turn consults the executive members of the ward council, who does the ordering of the new garments needed, shoes, hats, etc. An air of mutual respect, fraternity, and equality pervades the ward which is most apparent to a newcomer joining the ward, whom it doesn't take long to single out congenial companionship. A large percent of the men are pretty well along in years and in conversation at different times it is noticeable that they feel perfectly resigned to their lot and expect to end their days here in the institution."

A man behind the times is apt to speak ill of them on the principle that nothing looks well from behind.—Heine.

STANDARDIZATION OF HOSPITALS—CLASS XVII, INFECTIOUS-DISEASE HOSPITALS

Principles Governing the Planning of Hospitals for Communicable Diseases—Preventing Direct Contact Between the Infected and Uninfected—Technic of Care

By JOHN A. HORNSBY, M. D., Chicago, in Collaboration with MISS MARY WHEELER, Principal of the Illinois Training School, Chicago; DR. SOLOMON STROUSE, Former Pathologist in and now Member of the Medical Staff, Michael Reese Hospital, Chicago; MISS RENA S. ECKMAN, Former Dietitian, Massachusetts General Hospital, now of Teachers College, Columbia University, New York; DR. J. T. CASE, Roentgenologist, Battle Creek, Mich.; DR. EDWARD S. BLAINE, Roentgenologist, Cook County Hospital, Chicago; MR. E. C. LARSON, Former Accountant, now Assistant Superintendent, Michael Reese Hospital, Chicago; MR. MICHAEL M. DAVIS, Jr., Director, Boston Dispensary, Boston, Mass.

IT is not so long since infectious-disease hospitals were called "pesthouses," and it is within the memory of most of us when these institutions were set away on islands or other places far away from human habitations; and even today many enlightened communities would protest vigorously, call public meetings, and pass resolutions without end to prevent the location of an infectious-disease hospital anywhere in their neighborhood. And yet the modern infectious-disease hospital is probably the most sanitary and the cleanest institution that we have, just as the hospital laboratory, which is supposed to harbor micro-organisms of all kinds, is probably freer from these organisms than any other part of the institution.

We got our original ideas about "pesthouses" from the Orientals, whose manner of treatment of communicable diseases was to throw those afflicted into some far out-of-the-way building and leave them there alone, to get well or die, as Providence willed. That was in the days before vaccination and when smallpox and "the plague" carried away whole communities—indeed, almost whole nations—in an epidemic.

We have probably gone further in the prevention and treatment of communicable diseases as a practical public health measure than we have in any other direction. Smallpox, of course, ceased, with vaccination, to be a factor in enlightened communities. We now know where "the plague" comes from, its method of transfer or communication, and every public health service in the world is on the trail of the flea that carries it. The antimeningitis serum has laid the ghost of the terrible spotted fever of other days. The Behring antitoxin has almost eliminated diphtheria, at least when there is intelligence enough in a community to make use of it. We have now found the mosquito that is responsible for yellow fever, and by disposing of him have practically eliminated that terrible disease of earlier days. The practical eradication of these chief offenders among the communicable diseases, has brought into bolder relief another group of infections whose importance comes largely from the fact that the far more formidable ones are no longer to be reckoned with—such diseases, for instance, as measles, scarlet fever, whooping cough, mumps, chicken-pox, and, perhaps in another way, pneumonia and typhoid fever.

PRINCIPLES OF ISOLATION

We know the sources of infection and the methods of communication of many of these communicable diseases and are able to plan against them by destroying or isolating the insects or sources of infection, and it just happens that the diseases that are giving us trouble in our communicable-disease institutions today are almost confined to those whose organisms have not been identified and isolated so that we can take measures against them.

It will not be necessary for us to go into many sources of infection of what we may call the institutional communicable diseases of today, except to lay down the broad principle that nearly all diseases are communicable by direct contact of the patient suffering from the disease with the receptive well person. At least we find that if we can isolate our cases so that patients do not come into direct contact with well people, we can prevent the continuance of the epidemic—indeed, we can prevent the occurrence of almost any secondary cases.

Therefore, when we talk about an institution for the housing of this class of patients we are thinking in terms of the prevention of direct contact. Direct contact does not mean that a patient with measles must rub up against a receptive well child; but direct contact does mean that the infecting material must be brought directly to the receptive person either by the patient suffering from it, or through the intermediary of the hands or materials used by doctors, nurses, etc.

We used to think a great deal about "air-borne" diseases; we have practically given that up, be-

cause, while it is barely within the bounds of possibility that the scales of an erysipelas case perhaps might be driven by the wind to an open wound which is not infected and which thus might become so, it is quite likely that very careful technical preparations would have to be made to bring about any such results; nothing of the kind will happen under ordinary conditions once in a million times. So that when we think about taking the necessary precautions to prevent the infection of well people by the sick, we have really only to deal with the problems of direct contact.

There are two fundamental ways of solving this problem of direct contact; one is by perfecting the segregation of patients in the architecture of the building so that patients, doctors, nurses, and attendants in one department cannot get into another department or out among the public without flagrantly violating some fundamental and simple rules; the other way is by confining the segregation to the technical administration of the institution, that is, by having patients, doctors, nurses, and attendants observe certain rather technical precautions.

In one institution in this country the technical segregation is employed, but in that institution there are two or three permanently employed physicians who do nothing else and go nowhere else, nurses who are trained year in and year out to do that work in that place and in a certain way, and attendants who are equally well trained and who are kept there over long periods of time.

This technical isolation is impossible in general hospitals, especially where doctors from the outside are allowed to practice in the institution in large numbers and where interns, nurses, and attendants rotate from department to department at short intervals. So we may dispose of this technical isolation by merely calling attention to its impracticability in most places and its undesirability in all cases.

The ideal of isolation is to perfect arrangements in the architecture of a building for the continuance of an absolute separation of each disease from every other disease, including all attendants. This can be easily done where a complete and separate building is to be erected solely for this purpose, but the methods by which the same ends can be attained in a general hospital where the communicable section is only a small part are not very generally understood, and most hospital administrators dread any attempt to conduct a communicable disease section.

But it is not at all difficult—indeed, it is very much simpler than it sounds—to take a wing of one floor of a general hospital, preferably, of course, a ground floor, because in such a situation we can have outside entrances which make it unnecessary to go through the rest of the house—entrances that can be used not only for people going in and out, but for the admission of food and the laundry and the taking away of soiled dishes and soiled linens. In a large metropolitan institution the top floor could be set aside with entire safety by maintaining one elevator exclusively for this department.

The simplest form of an isolation unit can be easily had in almost any small country hospital. This form we regard as quite as effective, if properly administered, as a far more elaborate arrangement. In this little unit we find a vestibule, which may be a room or only an alcove, in which there is running water for the doctors and nurses to wash their hands and put on and take off infected outer garments. We find at the other end a vestibule to which orderlies may bring food or clean linens, and from which soiled things may be taken away in safety. This simple unit would serve where only a few isolated cases which develop in the institution are to be reckoned with, or for the serving of a small community which does not have more than a few of these cases in the course of a year. These same plans may be elaborated ad infinitum, and the hundred-thousand-dollar building built especially for the purpose will not furnish more secure isolation, reckoning on ordinarily decent administration in the two cases.

In planning this simplest possible isolation unit we are thinking of only one of the communicable diseases at one time, and are providing for the prevention of the spread of this one disease to the outside or into the hospital. If it is desired to be ready for two or three of the diseases at one time, of course more space will be required and the form of isolation will have to be multiplied for each disease intended to be cared for.

In the general hospital the segregation of the communicable diseases of childhood is comparatively simple when that alone is to be considered. The trouble is that every once in a while a case of erysipelas or puerperal septicemia will either find its way into the hospital or develop there, and these are the hard cases to isolate satisfactorily, because the streptococcus micro-organism of these two diseases is long-lived and difficult to destroy, and the ordinary streptococcus infection of the surgical case is likely to develop into either one of these diseases (erysipelas or puerperal septicemia) and make all sorts of trouble.

The streptococci will live for a year or more in a room and may infect a case at almost any time, no matter how carefully we have cleaned up after the case that was there.

TECHNIC OF CARE OF INFECTIOUS CASES

There are some fundamental principles involved in the care of these cases. One is that the floors, walls, and ceilings must be so constructed that they can be scrubbed with soap and water, and there must be no rugs except those that can be boiled or put into a disinfector, no upholstered furniture of any kind, and there must be no ventilators that can carry air particles through flues or ducts to other parts of the institution. In other words, window ventilation is the best. After a case is over and it is desired to clean up the place, it must be thoroughly scrubbed out with warm water and green soap. The mattresses, which must be curled hair, because they are the only kind that can be disinfected, must be put into a disinfector or soaked in carbolic water, and all rugs, blankets and tapestries must be treated likewise. Bed and furniture must be scrubbed with warm water and green soap. This is the only way to clean an infected room or suite, and in marking a hospital for the purpose of this standardization the fact ought to be developed whether this kind of technical treatment is possible, and where it is not possible premises will not be acceptable.

Another fundamental necessity for an isolation unit is that there shall be a technic by which doctors, nurses, and attendants wear an outer garment, washable in character, covering all the clothing, rubber gloves, and a head and face cover. The technic should include the time and place for the putting on of these garments and for their removal, with washing of the hands and face before the person leaves the infected premises. This technic should also include the preparation of infected material that is to be taken out of the premises by an orderly through the external exit. Infected linens should be put into a clean bag, if they are to be disinfected, in the vestibule before the removal. They will be safer if soaked in a 3 percent carbolic solution over night in a large bag, the whole of which can be removed to the regular laundry the next morning. Soiled dishes can be disinfected in the same way and removed by the orderly under appropriate technic, by which the orderly's hands do not come in contact with the handle of the container that has been handled by the nurse, unless the nurse herself is taught a precautionary technic by which she puts on clean gloves before touching the outside of the container.

THE MEDICAL AND NURSING STAFF

Complications of all sorts arise in connection with communicable diseases, and specialists in the various departments are often needed for counsel by the regular medical attendant. Unless these specialists have been thoroughly trained in the technic of the service, they are liable to infect everything they touch; therefore the medical attendant or the head nurse should supervise the consulting physician's entrance and exit, showing him each step of the precautionary operations. And as to the drilling of the doctors who enter the department the medical staff problem is a very simple one, except as it occasionally happens that a patient suffering from one of the communicable diseases has to undergo a surgical operation, in which case it will be better to bring a surgical outfit, including table and instruments, into the department rather than take the chance of having the patient infect the whole hospital through the regular surgical suite.

Every communicable disease department or unit ought to have a trained graduate nurse in charge, who, when there is a communicable disease to be cared for, can be devoted for this work exclusively. There is an opportunity for the training of pupil nurses in this department that should not be overlooked, but this training should be done under the direction and should be personally given by a graduate nurse who knows her business.

THE PATHOLOGIC LABORATORY

Every communicable disease unit, no matter how small, should have a certain amount of laboratory equipment. It can be confined to the equipment essential to the culture of the various forms of micro-organisms. Oftentimes a case that looks very much like diphtheria will take on a new aspect and may become a streptococcus sore throat, or a case that may look like one of the exanthemata may develop into another, or may be some other sort of rash that can be identified later. This bacteriological equipment is very simple and inexpensive; the main thing is to have some one in charge who knows his bacteriology.

The other factors to be considered in thinking about the communicable disease hospital do not differ in any way from similar features in other classes of hospitals. The communicable-disease hospital can be marked in the same way that other hospitals are marked, excepting in the features indicated above.

THE MECHANICAL EQUIPMENT OF MONTEFIORE HOME AND HOSPITAL

An Efficient, Practical, and Economical Plant, Meeting Recent Demands in an Up-to-Date Way—Soft Coal and Anthracite Screenings Burned in a Smokeless Furnace

By A. M. FELDMAN, Consulting Engineer, New York.

THE Montefiore Home and Hospital is located in the Borough of the Bronx, New York, bounded by Gun Hill Road, Two Hundred and Tenth Street, and Steuben and Wayne Avenues, covering three and a half city blocks. The avenue between Steuben and Woodlawn Avenues was closed up by special grant from the city, and the private pavilion, which is located on the block east of Woodlawn Avenue, is connected with the main group of buildings by means of a tunnel. The main group of buildings comprises an administration building, four patients' pavilions (central, medical, surgical, and tuberculosis), helps' dormitory, a service building, and synagogue. The hospital also owns 5,400,000 cubic feet; those of the private pavilion are 543,200 cubic feet.

All the buildings are connected with inclosed corridors through basements and first floors. The second stories are connected through the flat roofs of the corridors. The connecting tunnels under the corridors are used for carrying the pipes and electric cables.

The hospital has its own isolated power plant located in the subbasement of the service building.

BOILERS

There are four Heine safety water tube boilers, 250 horse-power each, equipped with Murphy automatic smokeless furnaces, in which soft coal is burned. For the past two years a mixture of soft coal and anthracite screenings has been successfully burned. Because the Montefiore Home plant is equipped with smokeless and automatic stokers in the boilers, it was better off than any of the other hospitals this winter, since it was not inconvenienced in burning the poorer grades of coal obtainable. The coal bunker has a capacity for storing about 1700 tons of coal, which is fed to the furnaces by means of an overhead monorail coal-handling system; the bucket is raised to the top of the boiler furnaces by means of an electric

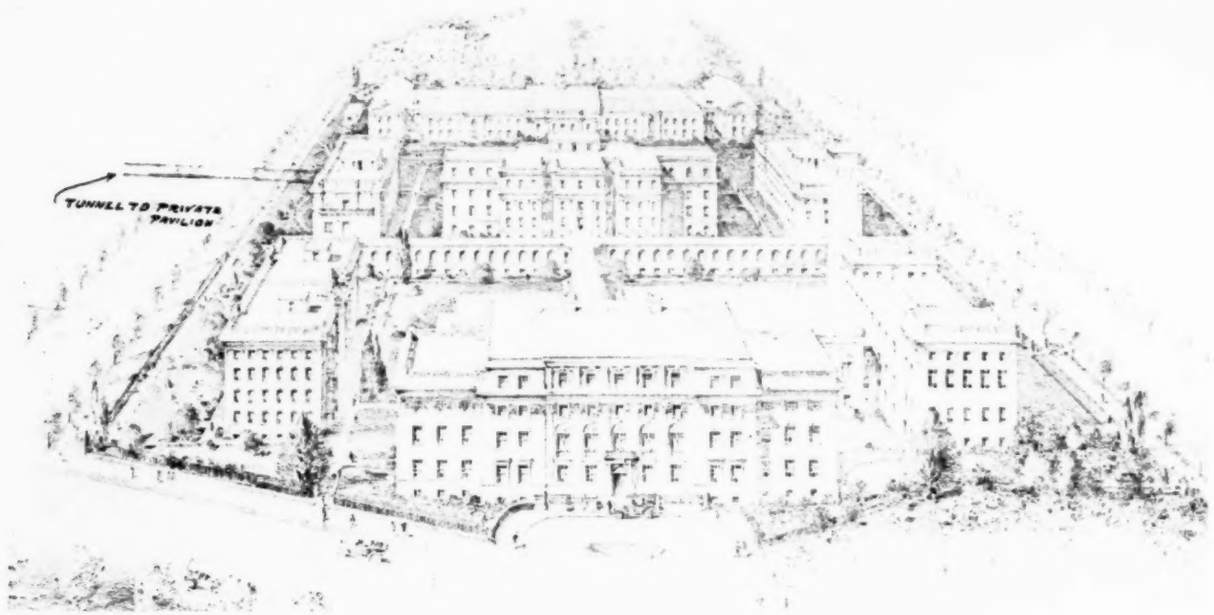


Fig. 1. New Montefiore Home.

parts of two blocks south of Two Hundred and Tenth Street, and another whole block east of Wayne Avenue. On the block south of Two Hundred and Tenth Street is located the medical director's house.

The general construction of the buildings is fireproof. The skeletons of the buildings—the foundations, columns, girders, and floor beams—are reinforced concrete. The walls are of hollow tiles, trimmed with tapestry brick and white limestone.

The cubic contents of the main group of buildings, exclusive of the private pavilion, are over

motor. The coal fed to the furnaces is weighed in an overhead track scale, the beam of which is fixed on the wall at a convenient height for the fireman to adjust the weight and take readings.

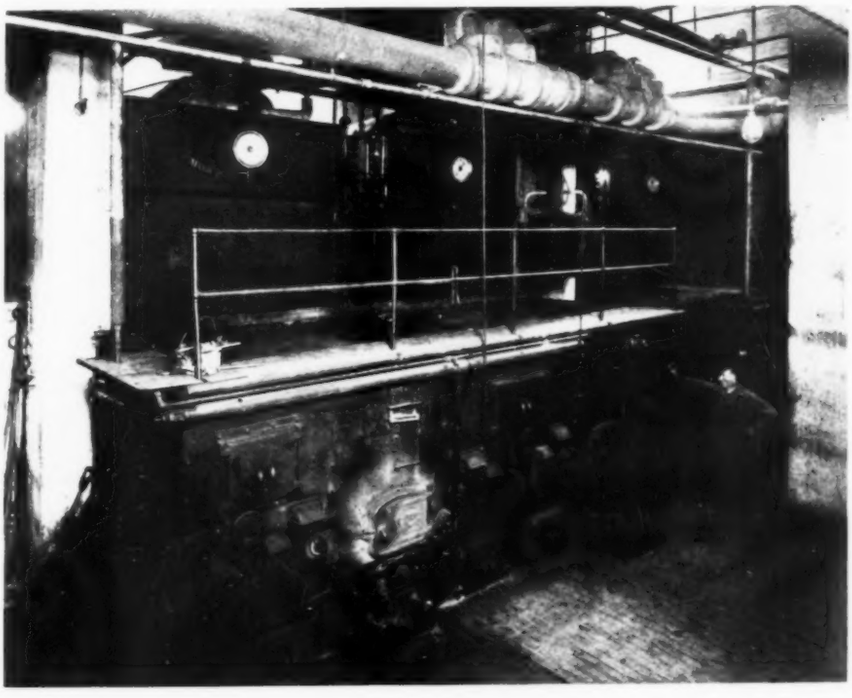


Fig. 2. Boilers and automatic smokeless furnaces. Overhead coal conveying trolley.

The amount of water fed into the boilers is automatically recorded on a 3-inch Venturi indicating, recording, and integrating meter. There are also provided Bristol instruments for recording the temperature of the feed water as it leaves the feed water heater, the temperature of the flue gases, and the boiler steam pressure. The headers for distributing the steam for various purposes are of ferro-steel, cast in one piece, thus eliminating leaky joints of fittings.

ENGINES AND GENERATORS

The electric generating plant consists of three 100 horsepower high-efficiency Corliss nonreleasing four-valve type engines direct connected each to a 75-kilowatt three-wire, 250 125-volt generator. A foundation, with foundation bolts covered over with floor tiling, is built for a future fourth engine.

STORAGE BATTERY

An electric storage battery is installed to handle the summer night load; also all year around, the electric elevator in the private pavilion. The latter connection was made to prevent the effect on the fluctuations of the voltage due to starting an elevator motor, which would have been detrimental to x-ray work.

The low-voltage system, such as fire alarms, self-winding clocks, annunciators, push buttons, silent-call system, etc., are operated by a special low-voltage storage battery, located in the same room with the large battery.

The battery room is especially well ventilated and lighted. A solid bronze multivane fan exhausts the gases generated when the batteries are charged. Air is admitted through a bronze register in the lower panel of the entrance door from the engine room.

HEATING

The heating of all buildings is accomplished by means of forced hot-water circulation. All the exhaust from the engines and pumps is utilized for heating the water, supplemented in very cold weather by live steam through a pressure-reducing valve.

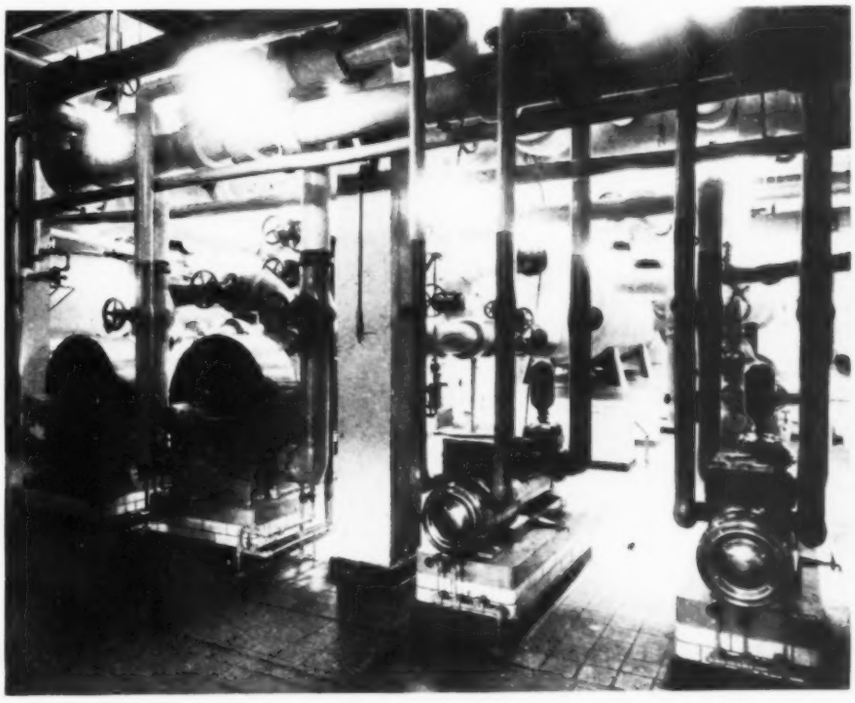


Fig. 3. Turbine-driven pumps for circulating the hot water for heating the buildings; also circulating pumps for the service hot water. The hot water generators are shown in the rear.

The system of piping consists of overhead supplies in the attics or furred ceiling spaces of the individual building, with down-feed single pipe risers, radiators connected on a shunt to the risers. All the risers are connected by return mains under the ceilings of basements. The basement radiators and coils are fed on shunt from these returns. All radiators are without legs and hung on wall brackets 6 inches off the floor and about 5 inches away from the walls. The standard "Peerless" plain surface radiator patterns were changed specially for this job, in accordance with the requirements of the specification, by removing the ridges and rounding off the edges, so that the radiators present perfectly rounded, smooth surfaces. The radiator sections are connected on 3-inch centers.

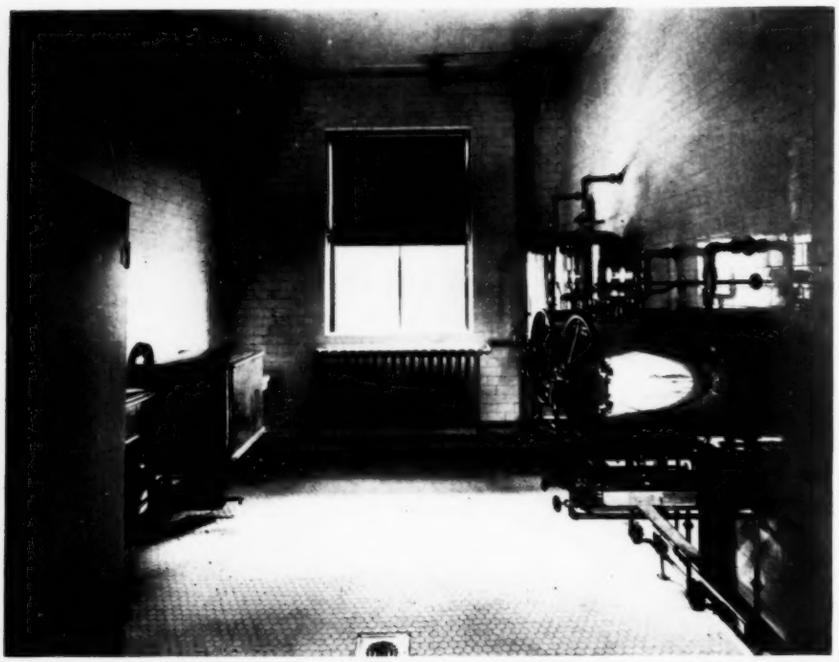


Fig. 4. Sterilizing equipment for operating rooms.

The plant has been in successful operation for four heating seasons. The temperature in the rooms and wards is maintained uniformly at between 68° and 70° F. without the necessity of manipulating individual radiator valves. This is accomplished by the engineer in the power plant, who regulates the temperature of the water in the hot-water generator in accordance with the out-door conditions.

The engineer has at his disposal recording thermometers which register the out-door temperature and that of the circulating water, on both the flow and the return. He is following a chart of temperatures which was originally prepared by the consulting engineer and very slightly modified by the supervising engineer. The buildings are never overheated in mild weather, as is the case with steam heating.

The water is forced through the heating system by a turbine-driven centrifugal pump, in duplicate, of a capacity of 1700 gallons per minute against a head of 70 feet.

The amount of heating units, and thereby the consumption of coal accounted for the heating of the entire group of buildings and the private pavilion separately, is recorded by means of Venturi recording, registering, and integrating meters and recording thermometers on the flow and return mains, avoiding uncertainties as to conditions.

Fig. 5. Hydrotherapy room.

VENTILATION

The ventilation of all the buildings was designed to meet the up-to-date ideas prevalent among physicians and hospital experts, who advocate keeping windows open. With that end in view a system

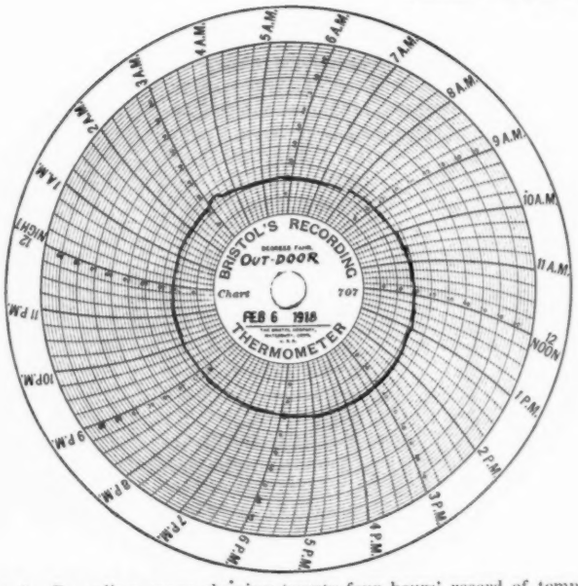


Fig. 6. Recording gauge showing twenty-four hours' record of temperature of flow water February 6, 1918.

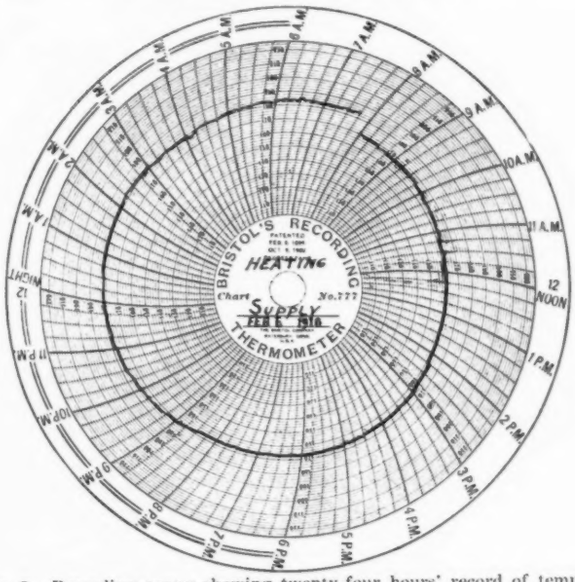


Fig. 7. Recording gauge showing twenty-four hours' record of temperature of return water February 6, 1918.

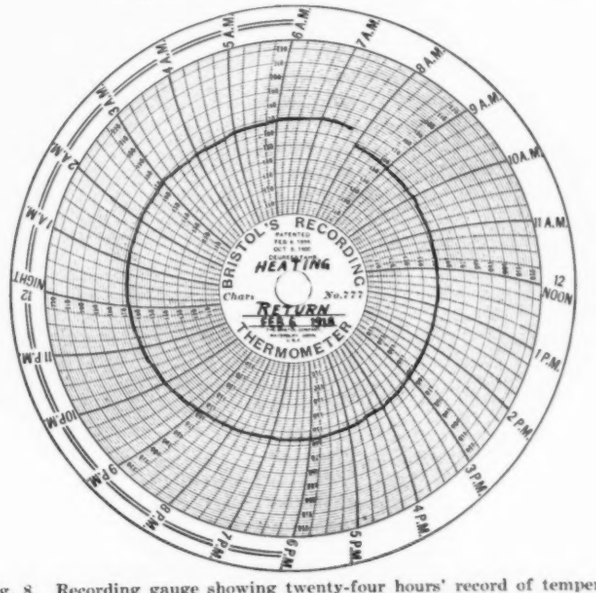


Fig. 8. Recording gauge showing twenty-four hours' record of temperature of heating supply February 6, 1918.

of exhaust ventilation was provided in all the wards, day rooms, main halls, pantries, toilets, etc., and in the principal rooms in the administration building. Fresh air is admitted through open windows. The radiation was designed with an allowance for heating the fresh air. To provide for inclement weather when windows cannot be kept open, however, fresh temperate air is also supplied through a system of ducts and indirect "Vento" stacks, without fans. This is provided in the wards, day rooms, and assembly rooms. The energy for exhausting is supplied by aspirating steam risers in the ducts, which makes the ventilating system positive and more continuous than when fans are employed.

Exhaust fans are installed only to ventilate the main kitchen, laundry, patients' dining room, operating rooms, temple, electric storage battery room, and engine room. The latter has proved to be so cool and well aired that the fan is used only in emergencies.

The register faces for the ventilating system are of special sanitary design and hinged, so that the ducts behind can be reached for cleaning. There are no louvers in any of the registers, and therefore they cannot be shut off and ventilation interrupted. The entire aspirating system in each building is operated by a single valve, thus again eliminating possibilities of shutting off the steam and reducing the exhausting effect from any part of the building without depriving the entire building of ventilation, which, of course, would be detected. To the best of my knowledge this is the first installation on an extensive scale where the exhausting system of ventilation in a large hospital has been made exclusively by means of aspiration, and fool-proof. The results have proved very satisfactory.

As the hospital is removed from the congested districts of the city, and is adjacent on one side to Van Cortlandt Park and on the other to a large water reservoir, there is no nuisance from dust, dirt, and noise caused by the open windows.

PLUMBING

The plumbing fixtures were selected with great care to suit the various requirements. In most cases the existing standard designs were changed by the manufacturers to comply with the specified requirements for absolutely sanitary, smooth, round surfaces.

All the lavatories and sinks, including pantry alberine sinks, are hung on walls and partitions without legs, the backs of fixtures being keyed into the walls. The bath tubs and the large heavy sinks are supported from the floor on special vitre-

ous legs of smooth, round surfaces, with coved feet keyed into the floor. The legs under the bath tubs are 12 inches high, so that the nurses do not have to bend over too much to assist the patients.

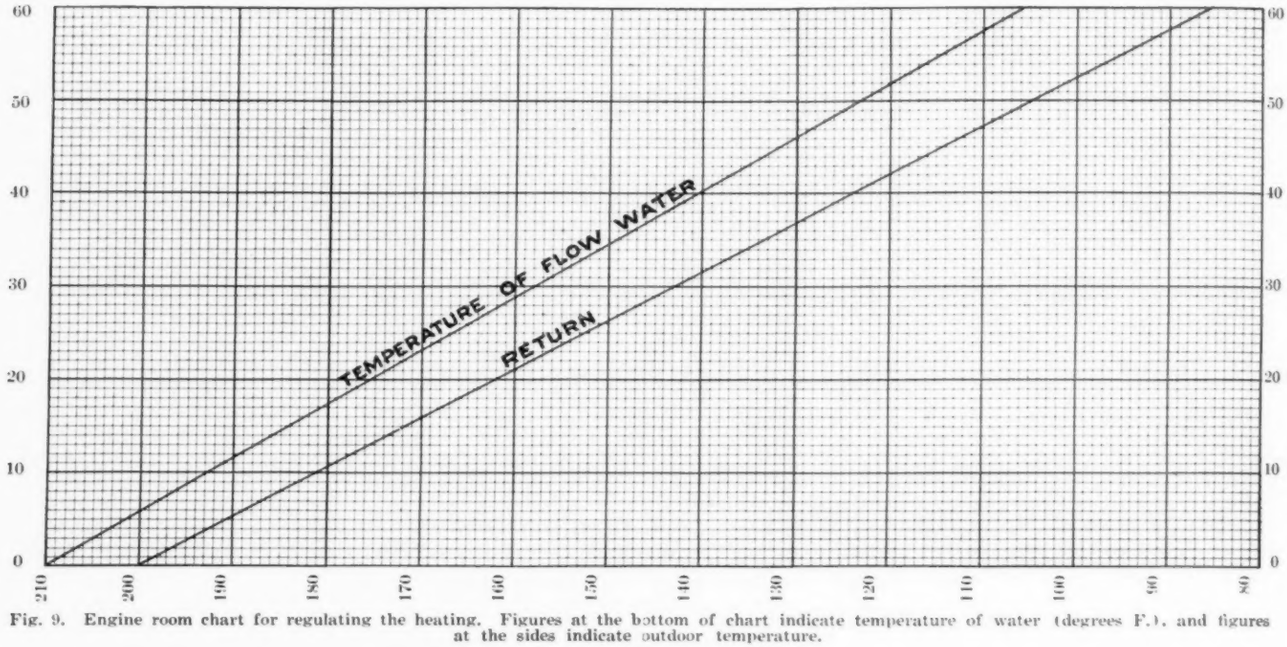


Fig. 9. Engine room chart for regulating the heating. Figures at the bottom of chart indicate temperature of water (degrees F.), and figures at the sides indicate outdoor temperature.

Bath tubs are set in the center of the bath rooms and the faucets are in the walls out of the patients' reach, so that they cannot accidentally scald themselves. The entire sterilizing equipment for operating rooms is also hung on wall brackets. Ranges, plate warmers, refrigerators, etc., are set on sanitary bases.

REFRIGERATION

There are two complete refrigerating machines, each of 20 tons, of the absorption type using exhaust steam. The condensing water in the refrigerating plant is not wasted to sewer, but is collected in a special steel tank, from which it is pumped into a heater for use in the laundry. All the refrigerators throughout the buildings are equipped with coil bunkers, through which brine is circulated by means of a pump. The interior of the refrigerators is lined with opal glass. The

HOSPITAL BUILDING	LOCATION	CUBIC FEET OF BUILDING	NUMBER OF PATIENTS	TOTAL RADIATION		VENTILATION		HEATING	BOILERS.		COST OF HEAT. & VENTIL (INCLUDING BOILERS, PUMPS, & PIPING IN POWER PLANT, LAUNDRY, KITCHEN STERILIZERS, IN DOLLARS		COAL. USED FOR GENERATING STEAM FOR ALL PURPOSES, INCLUDING HEATING, VENTILATING, LIGHTING, POWER, LAUNDRY, KITCHEN, STERILIZERS, HOT-WATER SERVICE AND REFRIGERATION.							ANNUAL COST OF LABOR (INCLUDING FIREMEN, OILERS, COAL-PASSERS, STEAM-FITTERS, HELPERS. DOLLARS.	ANNUAL COST OF OIL, GREASE AND WASTE DOLLARS.	ANNUAL COST OF COAL, LABOR, OIL AND WASTE. DOLLARS.		
				DIRECT 50 FT	INDIRECT 50 FT	SUPPLY AND EXH FANS	ASPIRATION		KIND & NUMBER OF UNITS	TOTAL HORSE POWER	TOTAL	PER CU FT	KIND	COST PER GROSS TON AT BUILDING DOLLARS	NUMBER GROSS TONS USED PER YEAR	TOTAL ANNUAL COST DOLLARS	NUMBER OF TONS PER YEAR PER ONE MILLION CU FT	ANNUAL COST PER ONE MILLION CU FT DOLLARS.	ANNUAL COST PER PATIENT DOLLARS.			TOTAL	PER ONE MILLION CU FT	PER PATIENT
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
A	NEW YORK	5,400,000	450	50,560	4818	EXHAUST FANS ONLY IN KITCHEN, LAUNDRY, BOILER ROOM & CHAPEL	YES	HOT-WATER FORCED CIRCULATION	FOUR WATER TUBE, STOKERS	1000	136,850	.025	MIXTURE 3 PARTS BITUMINOUS 1 PART ANTHRACITE DUST	2.25 to 2.38 to 2.50	3,730	14,017	69,074	2,595.74	31.15	7092	274	21,383	33698	47.51
B	NEW YORK	5,793,600	500	40,500	6710	SUPPLY AND EXHAUST	NONE	STEAM TWO-PIPE VACUUM	SIX FIRE RETURN TUBULAR	900	225,000	.039	*2 BUCKWHEAT	3.30	6,450	21,318	1115.14	36.80.00	42.64	6744	400	28,462	491,316	56.92
C	PITTSBURGH	3,338,000	500	15,800	6337	SUPPLY AND EXHAUST	NONE	STEAM TWO-PIPE VACUUM	THREE WATER TUBE, STOKERS FORCED DRAFT	531	104,705	.031	BITUMINOUS SLACK	* 1.75	4,350	8,526	1303.17	255.422	17.05	5280	256	14,062	*21270	28.12
D	NEW YORK	2,096,000	225	8,375	4610	SUPPLY AND EXHAUST	NONE	STEAM TWO-PIPE VACUUM	FOUR FIRE RETURN TUBULAR	440	86,461	.041	*2 BUCKWHEAT	3.47	2437	8,459	1162.7	403.578	37.60	5500	486	14,445	68311.70	64.20
E	NEW YORK	1,406,400	232	17,000	NONE	NONE	NONE	STEAM ONE PIPE GRAVITY	TWO WATER TUBE		30,000	.021	MIXTURE 2 PARTS BARLEY 1 PART BITUMINOUS	3.10 to 4.80	* 2,100	5,419	1493.17	385.310	* 23.36	4020	78	9,517	676692	*41.02
F	NEW YORK	1,345,815	150	9,000	3000	NONE	NONE	STEAM TWO-PIPE VACUUM	TWO WATER TUBE	264	48,595	.036	MIXTURE 3 PARTS BARLEY 1 PART BITUMINOUS	3.34	2,035	6,797	1512.09	505.047	45.31	5515	223	12,535	931407	83.56
G	BUFFALO	756,355	150			NONE	NONE	STEAM TWO-PIPE GRAVITY	TWO FIRE RETURN TUBULAR	160	26,452	.035	SMOKELESS BITUMINOUS	* 2.85	1,071	3,053	4160.00	* 40.646	* 20.35	3600	75[G]	6,728	883529	* 44.85

Fig. 10. Cost of installation and of operation of heating, ventilating, and power plants of seven hospitals. From data collected and compiled in 1915 by A. M. Feldman and C. E. Pearce.

A—Montefiore Home—Hydraulic plunger elevators; electric storage battery carries all night lighting load in summer; utilizing warmed condensing water from absorption refrigerating machine.

B—Absorption refrigerating machine.

C—*Note lower price of coal in Pittsburgh.

D—Fractional admission valves on radiators; utilizing warmed condensing water from absorption refrigerating machine; ice cost, $790.

E—*Buy electric current at an annual cost of $5,730; $24.70 per patient; ice costs $970; $3.30 per patient.

F—Buy ice at cost of $1,100; just installed compression ice making machine; indirect radiation not used.

G—*Note lower price of coal in Buffalo.

large cold-storage room for meat is also of the overhead bunker type.

Filtered drinking water is cooled in a closed tank located in the refrigeration room and circulated to the drinking fountains, provided in the halls on all the floors of the buildings.

ELEVATORS

The elevators in all the buildings except the private pavilion are of the hydraulic plunger type. The tanks and pumps are located in the power plant; the distributing pipes are carried in the tunnels. The pumps, which are in duplicate, are of a high-efficiency compound type. They start and stop automatically with the starting and stopping of the elevators.

ILLUMINATION

To forestall any possibility of interruption of lighting due to temporary failure of the hospital plant, to blowing of a fuse, etc., half of the lights in the fixtures over the operating tables in the operating rooms are connected on an independent circuit to the Edison Company's street mains. Special switches are provided in the operating rooms whereby all the lights in the fixtures can be connected either to the street current or to the hospital plant.

KITCHEN AND LAUNDRY

The consulting engineer has given a great deal of assistance to the building committee in the design and arrangement of the fixtures in the kitchen and laundry. The two are considered models in their equipments.

It might be of interest to record that the soup and meat kettles are of solid nickel. While they were rather expensive in first cost, they proved great money-savers regarding maintenance as compared with the usual copper kettles, block tin-lined, the lining of which has to be quite often replaced.

The sanitary features carried through the entire equipment in the hospital have been given special attention in the kitchen with regard to round, smooth surfaces, sanitary legs for tables, etc. The range is set off the floor on a sanitary covered base, and the kettles in a well-drained depression in the floor.

In the laundry the apparatus has been arranged to the end that the material to be handled may move in one direction without cross-movement and interference of help with each other. The washers and wringers are individually motor-driven and automatically operated from a central panel board. All the ironing is done electrically, except the mangles, which have steam drums.

As chairman of a committee of the American Society of Heating and Ventilating Engineers, I have collected and tabulated data, which are herewith shown, from seven hospitals on the cost of installation and cost of operation of their heating, ventilating, and power plants. The fuel consumed and oil and waste used cover not only that required for the heating and ventilating, but also that for lighting, power, refrigeration, kitchen, laundry, sterilizers, hot water service, etc.

From the analysis of the data it appears unquestionably that the Montefiore Home and Hospital, which is designated on the table A, has the most economical plant, the coal consumption being the lowest, compared with the others on the basis of the number of tons and annual cost per million cubic feet of building, notwithstanding that it has the largest amount of radiation. The prices of coal, etc., were those prevalent during 1915.

Arnold W. Brunner and Buchman and Fox were the architects. The consultants were Dr. S. S. Goldwater, hospital specialist, Dr. S. Wachsmann, medical director of the Montefiore Home and Hospital, and A. M. Feldman, consulting engineer for the entire mechanical equipment.

Dressings of Turkish Toweling in Italian Military Hospitals

The Italian military hospitals are using white Turkish toweling as bandages, abdominal binders, dressings to cover drainage wounds, and pad dressings to absorb irrigations.

These dressings were designed by Dr. Barbetti of Florence, a well-known Italian surgeon. They consist of five standard bandage dressings, first, two strip bandages, one made 5½ by 59 inches and the other, 4 by 43 inches, which can be used for all ordinary bandaging of drainage wounds of the head and extremities.

The larger dressings are adjustable and are practical for abdominal binders and irrigation pad dressings for the body and upper extremities. The larger abdominal binder dressing is cut 42½ by 16 inches and has five tails, on each of which is sewed a tape. There is another cut 20 by 18 inches, also with five tails, and another 17 by 24 inches with four short tails taped. These may be used for lower limbs and arms, hands, feet, and head.

All the dressings are whipped around the edges to prevent raveling and have the advantage of being both washable and durable. They replace cotton and gauze, the price of which is prohibitive in Italy now, and can be made by volunteer labor.

Miss Annie W. Goodrich, president of the American Nurses' Association, assistant professor in the department of nursing and health, Teachers College, New York, and editor of the nursing department of THE MODERN HOSPITAL, has been appointed chief inspector of nurses of the army, both at home and abroad. Her assistant is Miss Elizabeth C. Burgess, now inspector of training schools of New York state.

BOOKKEEPING FOR SMALL HOSPITALS AND ALLIED INSTITUTIONS

Definitions, Rules, Forms, and Examples of Entries in Single and Double Entry Bookkeeping for Small Institutions

By HERBERT K. CARTER and CHARLES A. PORTER, of the Staff of The Modern Hospital.

[Continued from March issue.]

INVOICE BOOK

The customary Invoice Book is made up in the form of a scrap book. The book is divided into three sections—capital additions, expense, and miscellaneous.

Invoices are numbered in sequence, and classified as capital additions, expense, and miscellaneous items. These are next posted into the proper section of the Invoice Book, and totals are made up at the end of each month. The totals of these invoices for the month give the total of accounts payable. The separate invoices are posted to their respective accounts in the General Ledger.

The following example shows the use of the Invoice Book:

Items Bills posted in here		L. F.	Amounts
Johnson & Jackson	1	.....	$..... ....
Murdock, Brail & Co.	2	.....	$..... ....
L. L. Lewis	3	.....	$..... ....
Murphy & Potter	4	.....	$..... ....
Grimson & Stubbs	5	.....	$..... ....
Smith Produce Company	6	.....	$..... ....
Total			$..... ....

LEDGER

It will probably be necessary to keep the following ledger accounts for this system of double entry bookkeeping:

1. Cash.
2. Capital or proprietors' accounts.
3. Hospital land and buildings.
4. Equipment.
5. Mortgages receivable.
6. Notes receivable.
7. Investment accounts—Property or real estate.
8. Investment accounts—Bonds.
9. Interest.
10. Loss and gain.
11. Material.
12. Endowed Bed Fund.
13. General Endowment Fund.
14. Mortgages payable.
15. Notes payable.
16. Hospital earnings—Accounts receivable.
17. Accounts payable—Expense.
18. Overpayments by patients.
19. Personal accounts—Receivable.
20. Personal accounts—Payable.

Accounts may be opened with furniture and fixtures, ambulances, etc., if it is not desired to include them in the equipment account.

The following examples show how the ledger accounts are kept:

1

CASH

The Cash Book shows the cash balance at any and all times, making it unnecessary to carry a cash account in the Ledger.

2

CAPITAL ACCOUNT (HOSPITAL PROPERTY)

Dr.		Cr.	
Land and buildings	$.....	Total to date	$..... ....
Equipment	$.....	Land and buildings	$..... ....
For book value of sales as per Journal entry 8.		Equipment	$..... ....
Land and buildings	$.....	Capital expenditures as per Journal entry 7.	
Equipment	$.....	Land and buildings	$..... ....
For loss by fire or depreciation for month as per Journal entry 9.		Equipment	$..... ....
		For value of gifts capitalized as per Journal entry 7.	
Total	$.....	Total	$..... ....

Difference of totals equals capital account as shown on the Balance Sheet.

3

HOSPITAL LAND AND BUILDINGS

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Capital	$.....	Cash	$..... ....
For capital expenditures as per Journal entry 7.		For sales as per Cash Book.	
Capital	$.....	Mortgages receivable	$..... ....
For value of donations capitalized as per Journal entry 7.		For mortgages receivable received on account of sales.	
Loss and gain	$.....	Loss and gain	$..... ....
For profit on sale as per Journal entry 14.		For loss by fire or depreciation as per Journal entry 9.	
		Loss and gain	$..... ....
		For loss on sale as per Journal entry 12.	
Total	$.....	Total	$..... ....

The difference in the totals equals the value of hospital land and buildings.

4

EQUIPMENT

The equipment account is handled in the same manner as the preceding example.

5

MORTGAGES RECEIVABLE

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Cash	$.....	Cash	$..... ....
Purchases as per Cash Book.		For sales or payments as per Cash Book.	
Loss and gain	$.....	Loss and gain	$..... ....
For value of mortgages receivable, unrestricted, given to the hospital as per Journal entry 2.		For loss during months as per Journal entry 11.	
General Endowment Fund	$.....		
Endowed Bed Fund	$.....		
For value of mortgages given to the hospital, restricted, as per Journal entry 3.			
Land and buildings	$.....		
Equipment	$.....		
Investments	$.....		
For mortgages received on account of sales as per Journal entry 1.			
Total	$.....	Total	$..... ....

Difference of totals equals value of mortgages receivable.

BONDS

The bonds account is kept very similar to the preceding example.

6

NOTES RECEIVABLE

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Personal account concerned	$.....	Cash	$..... ....
For bills paid by note as per Journal entry 4.		For cash received on this account as per Cash Book.	
Notes receivable	$.....	Notes receivable	$..... ....
For renewals as per Journal entry 5.		For renewals as per Journal entry 5.	
		Loss and gain	$..... ....
		For uncollectable notes receivable charged off during the month as per Journal entry 13.	
Total	$.....	Total	$..... ....

The difference in the totals equals notes receivable.

7

INVESTMENT ACCOUNT—REAL ESTATE

Description of Property—Fund or Unrestricted

Dr.		Cr.	
Loss and gain	$.....	Loss and gain	$..... ....
For value of property given to hospital as per Journal entry 21.		For loss or depreciation as per Journal entry 19.	
Cash	$.....	Cash	$..... ....
Additions as per Cash Book.		For full or part payment as per Cash Book.	
Loss and gain	$.....	Mortgages receivable	$..... ....
For profit on sale as per Journal entry 19.		Full or part payment as per Journal entry 1.	
		Loss and gain	$..... ....
		For loss on sale as per Journal entry 12.	
Total	$.....	Total	$..... ....

Difference in totals equals present interest in property, if any.

8

INVESTMENT ACCOUNT—BONDS

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Cash	$.....	Cash	$..... ....
For purchase as per Cash Book.		For sale as per Cash Book.	
Loss and gain	$.....	Loss and gain	$..... ....
For value of bonds, unrestricted, given to hospital as per Journal entry 2.		For loss as per Journal entry 12.	
Edowed Bed Fund	$.....	Loss and gain	$..... ....
General Endowment Fund	$.....	For depreciation as per Journal entry 9.	
Other fund	$.....		
For value of bonds, restricted, given to hospital as per Journal entry 3.			
Loss and gain	$.....		
For profit on sales as per Journal entry 20.			
Total	$.....	Total	$..... ....

Difference in totals equals bonds as on Balance Sheet.

9

INTEREST

Dr.		Cr.	
Inventory	$.....	Inventory	$..... ....
Cash	$.....	Cash	$..... ....
For interest purchased as per Cash Book.		For interest received as per Cash Book.	
Cash	$.....	Inventory	$..... ....
For interest paid as per Cash Book.		For interest due and unpaid.	
Loss and gain	$.....	Loss and gain	$..... ....
For excess of costs over returns for the month as per Journal entry 17.		For amount of difference of interest earned over costs for the month as per Journal entry 16.	
Loss and gain	$.....		
For accrued interest on donations as per Journal entry 15.			
Inventory	$.....		
For interest due and unpaid.			
Total	$.....	Total	$..... ....
Inventory 1st of month	$.....	Inventory 1st of month	$..... ....

10

LOSS AND GAIN ACCOUNT

Dr.		Cr.	
Total 1st of month	$.....	Total 1st of month	$..... ....
Notes receivable	$.....	Mortgages receivable	$..... ....
For uncollectable notes receivable charged off as per Journal entry 13.		Bonds	$..... ....
Personal account receivable concerned	$.....	Other investments	$..... ....
For accounts receivable charged off as per Journal entry 10.		For value of same donated to hospital as per Journal entry 2.	
Mortgages receivable	$.....	Hospital land and buildings	$..... ....
Bonds	$.....	Equipment	$..... ....
For losses on sale as per Journal entry 12.		Real estate	$..... ....
Interest	$.....	Other investments	$..... ....
For loss as per Journal entry 16.		For profits on sales as per Journal entry 14.	
Expense	$.....	Hospital earnings	$..... ....
For current expense for the month as per Journal entry 23.		Accruals during the month as per Journal entry 19.	
Material	$.....	Interest	$..... ....
For loss or depreciation on Material as found by inventory as per Journal entry 25.		For gain as per Journal entry 17.	
		Interest	$..... ....
		For accrued interest on donations as per Journal entry 16.	
		Real estate	$..... ....
		For value of real estate, unrestricted, donated as per Journal entry 21.	
		Overpayments by patients	$..... ....
		For overpayments by patients not liable to be claimed and refunded as per Journal entry 22.	
		Material	$..... ....
		For surplus of material, over that shown in the books, as per inventory and Journal entry 24.	
Total	$.....	Total	$..... ....

Difference of totals equals loss or gain for the month. If the hospital is conducted on a partnership basis, this loss or gain will be debited or credited to the partners as per Journal entries 1 and 2 relating to such conditions.

11

MATERIAL ACCOUNT

Dr.		Cr.	
Inventory	$.....	Cash	$..... ....
For amount on hand 1st of month.		For sales as per Cash Book.	
Purchases	$.....	Personal account receivable	$..... ....
For purchase of material as per Invoice Book.		Sales for month as per Journal entry 24.	
Loss and gain	$.....	Loss and gain	$..... ....
For surplus amount found by inventory as per Journal entry 24.		For loss or depreciation as per Journal entry 25	
Total	$.....	Total	$..... ....

Difference in totals equals amount of material on hand.

12

ENDOWED BED FUND

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Loss and gain	$.....	Cash	$..... ....
For amount charged off from this fund owing to the cessation of liability of the hospital as per Journal entry 18.		For cash for endowment of beds as per Cash Book.	
		Bonds	$..... ....
		Other property	$..... ....
		For donations to this fund as per Journal entry 3.	
Total	$.....	Total	$..... ....

Difference in totals equals the Endowed Bed Fund.

13

GENERAL ENDOWMENT FUND

The General Endowment Fund is handled in the same manner as the previous example.

14

MORTGAGES PAYABLE

Dr.			Cr.		
Total of previous months	$	....	Total of previous months	$	....
Cash	$	....	Cash	$	....
For part or full payment of mortgages payable as per Cash Book.			For mortgages given as per Cash Book.		
Total	$	....	Total	$	....

The difference in the totals equals the value of mortgages payable.

15

NOTES PAYABLE

Dr.			Cr.		
Total of previous months	$	....	Total of previous months	$	....
Cash	$	....	Cash	$	....
Notes paid during the month as per Cash Book.			For loans incurred as per Cash Book.		
Notes payable	$	....	Notes payable	$	....
For renewals as per Journal entry 5.			For renewals as per Journal entry 5.		
Total	$	....	Total	$	....

Difference in totals equals notes payable.

16

HOSPITAL EARNINGS

Dr.			Cr.		
Total of previous months	$	....	Total of previous months	$	....
Loss and gain	$	....	Personal accounts receivable (enumerate)	$	....
For transfer to loss and gain account as per Journal entry 19.			As per Journal entry 6.		
Advance payments, Cash inventory	$	....	Cash	$	....
Overpayments by patients	$	....	For cash as per Cash Book.		
For overpayments as per Journal entry 20.					
Total	$	....	Total	$	....

This account balances monthly.

17

EXPENSE—ACCOUNTS PAYABLE FOR THESE ITEMS

Dr.			Cr.		
Inventory	$	....	Inventory end of month	$	....
Prepaid expenses.			Loss and gain	$	....
Accounts payable	$	....	For loss and gain on account of expenses as per Journal entry 23.		
For purchases as per Invoice Book.					
Total	$	....	Total	$	....
Inventory 1st of next month				$	....

The amount of the inventory equals prepaid operating expenses as shown on the Balance Sheet.

18

OVERPAYMENTS BY PATIENTS

Dr.			Cr.		
Total of previous months	$	....	Total of previous months	$	....
Loss and gain	$	....	Hospital earnings	$	....
For overpayments by patients not liable to be refunded as per Journal entry 22.			For overpayments as per Journal entry 20.		
Total	$	....	Total	$	....

The difference in the totals equals the amount of overpayments by patients held as liable to be refunded.

19

PERSONAL (NAME) ACCOUNT RECEIVABLE

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Hospital earnings	$.....	Cash	$..... ....
As per Journal entry 6.		As per Cash Book.	
		Notes receivable	$..... ....
		For notes receivable as per Journal entry 4.	
Total	$.....	Total	$..... ....

Difference in totals equals the amount due the hospital, if any.

20

PERSONAL ACCOUNT PAYABLE

Dr.		Cr.	
Total of previous months	$.....	Total of previous months	$..... ....
Cash	$.....	Purchases	$..... ....
For payments as per Cash Book.		As per Invoice Book.	
Total	$.....	Total	$..... ....

Difference in totals equals the amount still owing.

TRIAL BALANCE

TRIAL BALANCE OF AMOUNTS FOR YEAR 19....

Accounts	L. F.	January	February
Cash	1	$.....	$..... ....
Capital	2	....	....
Land and buildings	3	....	....
Equipment	4	....	....
Mortgages receivable	5	....	....
Notes receivable	6	....	....
Investments	7	....	....
Investments	8	....	....
Interest	9	....	....
Loss and gain	10	....	....
Material	11	....	....
Endowed Bed Fund	12	....	....
General Endowment Fund	13	....	....
Mortgages payable	14	....	....
Notes payable	15	....	....
Hospital earnings	16	....	....
Accounts payable, expense	17	....	....
Overpayments by patients	18	....	....
Personal accounts receivable (enumerate)	19	....	....
Personal accounts payable (enumerate)	20	....	....
Totals		$.....	$..... ....

These totals should agree.

SCHEDULE 1

COMPARATIVE SURPLUS AND DEFICIT ACCOUNT FOR YEARS ENDED DECEMBR 21, 19...., AND 19....

	19....	19....		19....	19....
Total current expenses	$.....	$.....	Total current revenue	$.....	$..... ....
Capital expenditures—			Capital items sold	$.....	$..... ....
Land and buildings	$.....	$.....	Profit on above sale	$.....	$..... ....
Furniture and fixtures (capitalized)	$.....	$.....	Profit on sales of investment	$.....	$..... ....
Apparatus, instruments	$.....	$.....	Amount charged off Endowed Bed Fund and other funds owing to cessation of liability of hospital	$.....	$..... ....
Miscellaneous	$.....	$.....	Cash for fire insurance, etc, interest	$.....	$..... ....
Total capital expenditures	$.....	$.....			
Uncollectable accounts receivable	$.....	$.....			
Loss and depreciation charged off current asset accounts	$.....	$.....			
Investment account, interest	$.....	$.....			
Total	$.....	$.....	Total	$.....	$..... ....
Surplus for the year	$.....	$.....	Deficit for year	$.....	$..... ....
Total	$.....	$.....	Total	$.....	$..... ....

SCHEDULE 2

COMPARATIVE BALANCE SHEET FOR YEARS ENDED DECEMBER 31, 19...., AND 19....

	19....	19....	Increase	Decrease
Capital Assets—				
Hospital lands and buildings	$.....	$.....	$.....	$..... ....
Furniture and fixtures	....	....	....	....
Apparatus and instruments	....	....	....	....
Mortgages receivable	....	....	....	....
Bonds	....	....	....	....
Property	....	....	....	....
Miscellaneous	....	....	....	....
Total capital assets	$.....	$.....	$.....	$..... ....
Current Assets—				
Notes receivable	$.....	$.....	$.....	$..... ....
Accounts receivable	....	....	....	....
Material on hand	....	....	....	....
Cash	....	....	....	....
Prepaid insurance	....	....	....	....
Prepaid taxes	....	....	....	....
Total current assets	$.....	$.....	$.....	$..... ....
Capital Liabilities—				
Capital (hospital property and equipment)	$.....	$.....	$.....	$..... ....
General Endowment Fund	....	....	....	....
Endowed Bed Fund	....	....	....	....
Other reserve funds (list each)	....	....	....	....
Mortgages payable	....	....	....	....
Total capital liabilities	$.....	$.....	$.....	$..... ....
Current Liabilities—				
Notes payable	$.....	$.....	$.....	$..... ....
Advance payments by patients	....	....	....	....
Overpayments by patients	....	....	....	....
Accounts payable	....	....	....	....
Accrued wages unpaid	....	....	....	....
Total liabilities	$.....	$.....	$.....	$..... ....
Total loss or gain	....	....	....	....

If the hospital is conducted by an individual or on a partnership basis, the capital account will become the proprietors' accounts—one, two, three, or more, as the case may be.

SCHEDULE 3

COMPARATIVE STATISTICS OF PATIENTS TREATED FOR YEARS ENDED DECEMBER 21, 19...., AND 19....

	19....	19....	Increase	Decrease
Patients in hospital January 1, male	.....	.....	.....	.....
Patients in hospital January 1, female	.....	.....	.....	.....
Patients admitted during year, male	.....	.....	.....	.....
Patients admitted during year, female	.....	.....	.....	.....
Total	.....	.....	.....	.....
Male	.....	.....	.....	.....
Female	.....	.....	.....	.....
Patients discharged, cured	.....	.....	.....	.....
Patients discharged, improved	.....	.....	.....	.....
Patients discharged, unimproved	.....	.....	.....	.....
Patients transferred	.....	.....	.....	.....
Patients died	.....	.....	.....	.....
Total	.....	.....	.....	.....
Patients in hospital December 31, male	.....	.....	.....	.....
Patients in Hospital December 31, female	.....	.....	.....	.....
Total	.....	.....	.....	.....
Total patients treated	.....	.....	.....	.....
Average per day	.....	.....	.....	.....
Average number employees per day	.....	.....	.....	.....
Total patients days treatment	.....	.....	.....	.....
Total expense of operating hospital	.....	.....	.....	.....
Cost per patient per day	.....	.....	.....	.....

Expense divided by patient days treatment equals cost per patient per day.

[To be continued.]

THE RELATION OF THE HOSPITAL SUPERINTENDENT TO RESEARCH*

Essential Requirements for the Successful Prosecution of Research in the General Hospital—A Practical Plan for Team-Work in Research

By HERBERT O. COLLINS, M.D., Superintendent of Hospitals, Minneapolis.

A HOSPITAL is usually defined as an institution or building for the care and treatment of the sick or injured.

There was a time in the history of hospitals when such a definition covered the entire subject, and one seldom thought of them as anything more.

Almost from the first, however, these institutions were utilized for the teaching of medical students. And, as medicine became more and more a complex science, the importance of the hospital clinic became greater. Then was added the intern service, partly to assist the hospitals in their work, and partly to supplement the undergraduate clinics and give to a portion of the young doctors the advantages of post-graduate hospital training. The next step along these lines, only comparatively a few years old in this country, was the addition of the fifth, or hospital year, to the medical student's training, making the hospital intern service compulsory and linking the modern general hospital still more closely to the medical college.

With the development of the profession of nursing, the hospital easily took the position as the best and most natural place in which the nurse's training should be given, and the training school for nurses was added to the other activities of the hospital, broadening and elevating its status at the same time. To this, many hospitals have added training courses for dietitians, laboratory technicians, x-ray operators, record clerks, housekeepers, social workers, and others, as well as post-graduate courses for doctors and nurses.

The result of all this is that the modern general or special hospital is one of the most complex organizations of which we have any knowledge. In fact, it has rightfully ceased to be a mere boarding house for the sick; its original sphere is almost lost sight of in some cases, and it is becoming more and more an educational institution, of which the care of the sick forms merely the fundamental basis.

The broadening of the field of the hospital administrator is not always appreciated by the public, and is seldom realized by the superintendents themselves. A man who enjoys a national reputation among educators once remarked this to me after he had finished the survey of the public health and hospital situation in a large city, calling my attention to the fact that few professions cover so broad a field as that of hospital administration. For, as he expressed it, the modern hospital superintendent must not only be a good executive, but he must know something of medicine, hygiene, pathology, and bacteriology; he must have some knowledge of the training of nurses and of the supplemental training of medical students, as well as the ability to buy coal, meat and other foods; he must be an expert in the running of a large laundry and cold storage plant, and competent to manage something similar to a large hotel, for the accommodation of his resident staff and private patients.

The question, therefore, as to whether the hospital superintendent should be burdened with any more responsibilities is a very proper and pertinent one, and we are at first tempted to declare that he should be spared. Yet there is a large and uncultivated field in the promotion of medical research in nearly every large hospital, and, if science is to continue to advance, this opportunity must be made use of in a more organized and systematic way than is commonly done. Those who are in a position to exercise control over this large amount of clinical material are not fulfilling their trust if they do not make every effort to see that it is used in the best way for the advancement of science, and the ultimate benefit of the race.

I presume that we are safe in saying that there is no hospital—certainly none worthy of the name—in which there is not a certain amount of research done by members of the staff. This kind of work is largely individual, and is to be commended and encouraged. Certainly none of us would want to interfere with it in the least, and we all recognize our duty to assist members of our staffs in any way that we can. Yet, because this is individual work and often lacks the guiding hand of a trained and experienced investigator, it will always have its limitations and fall short of its complete possibilities.

There are a few hospitals in this country in which more organized work is attempted. In most instances, these are institutions in which a special fund or endowment is set aside for research, and they occupy a class by themselves. We are usually contented to leave this field to the specially endowed institution or foundation, on

*Read before the American Hospital Association at its nineteenth annual session, Cleveland, O., September 12, 1917.

the supposition that nothing like regularly organized work in medical research can be done in the average hospital, which has to depend upon its own income from private patients, or appropriations from public funds, which are nearly always too small.

But is this entirely true? Cannot some method be adopted whereby any large hospital can engage, as an organization, in work of this kind, without the necessary expenditure of a large sum of money, and without interfering with the more fundamental objects of the institution?

I believe that this is perfectly possible, and that the time will come when we shall recognize the department of medical research as being as important and essential a part of the organization of a modern general hospital, as is the training school for nurses, the intern service, or clinics for undergraduates in medicine.

What can the superintendent of a hospital do in connection with such work in his institution? Certainly he cannot personally go to the laboratory and work out problems, nor can he be expected to do clinical work in the wards upon which investigation would be based. But if he is the right kind of a superintendent he is in a position to take the initiative in organizing the work, in helping it along from time to time by giving it the encouragement and recognition of the administration and by furnishing the workers with such equipment and supplies as may be found to be within the financial limits of the hospital. As most such equipment will be found to be already at hand, a little care in selecting the subject to be studied will result in keeping the cost down to a comparatively small figure.

Several things, it seems to me, are essential to successful organized research work in a general hospital, namely, absolute sympathy and active cooperation on the part of the administration. This may be considered as fundamental, for, without such attitude, the staff will be able to accomplish very little. Such sympathy should be active, and shared by nurses, laboratory workers, and others, till the proper atmosphere is created, most necessary to the accomplishment of the best work. Passive tolerance on the part of the administration will hardly be accepted as a substitute.

Probably the most important part of the work which the superintendent can do in connection with the encouragement of organized research, consists in setting a high standard for the professional work of the hospital. The first step should consist in careful selection of the men who constitute the staff, in order that physicians who will bring credit to the hospital, giving it something in return for what they take out of it, shall be selected for these very desirable positions. Not in all hospitals are such appointments made by the superintendent, but as far as possible he should make an effort to see that the proper type of men are appointed. This done, half the battle for scientific work is won, but not the whole. The standard once set, an effort can be made to keep up to it, letting it be known that mediocre work will not be accepted, and that those members of the staff who are engaged in the highest type of medical research in connection with their clinical work will be favored by the administration in every way possible. This attitude need not in the least interfere with the clinical work or the actual personal care of the individual patients. For, as is usually acknowledged, patients receive better care in a teaching hospital than in one where there is no teaching, so the general scientific atmosphere created by a body of men and women seeking to solve medical or surgical problems will usually result in the highest type of clinical work, to the benefit of the patient. There may now and then be found an enthusiast who will spend time in the laboratory which he should give to the patient, or who will allow a disease to run an unchecked course while he studies certain phenomena connected with it. But such an impractical person should soon be checked and if necessary dropped from the staff entirely.

The superintendent can assist greatly in research by providing his institution with a proper and carefully kept system of case records, making it possible to examine at any time and with the least possible expenditure of time the records and statistics of any given class of cases. The average hospital records are of little value for such work, and consist chiefly of written evidence of waste of time by interns and nurses, and of valuable paper, which gradually accumulates in untold tons. A good record system can be obtained only by eternal vigilance and attention to details. The superintendent can do much here, but by no means all. He can establish the general rules, carefully select his record clerks, see that records are properly filed, indexed and cross-indexed, and preserved, and can do a great deal by refusing to accept a clinical record which is not complete and up to the proper standard. But after all, if the case records are to be what they should be, so kept that the record shows a clear picture of the case years after the patient is forgotten and memory is no longer of value, the responsibility for their accuracy and value must rest chiefly upon the staff member who is in charge of the patient. For he is the only one who will be sufficiently familiar with the clinical work to know whether

a record is right or wrong, complete or incomplete. "Why waste hours writing histories, when the staff never takes the time to look at them?" is too familiar an argument of the average hospital intern, who would much prefer to use his valuable time in goiter or gall-bladder operations than in doing what, to him, seems like unimportant clerical work. And the hospital attending physician or surgeon who never reads his patients' histories and who is, in his own estimation, too big a man to be bothered by such detail work as the examination of his case records to see that his intern and nurse are properly recording the essential points of the case and omitting records of non-essentials, will usually be found out of place on the staff of a hospital which is endeavoring to do any really valuable research work.

The value of records for the purpose of case study can be increased greatly by standardizing the system in use in a group of two or more hospitals located in the same neighborhood. Thus, statistics of five hundred cases of lobar pneumonia, found in the record room of one hospital, may easily be multiplied to one or two thousand cases taken from the records of other hospitals of the same city, covering a given time. This does not necessarily carry with it a proposal that the records of all hospitals considered should be kept in exactly the same way. There are real objections to such a proposition, as the needs and long-established customs of each hospital may differ. But if the superintendents of a neighborhood group of hospitals will get together, they will usually find little difficulty in adopting a standard system of indexing their records, and common methods of recording important data, which will render it comparatively easy to unite the statistics from all, whenever this should be desired. The most important step in this direction consists in the adoption of some definite system of nomenclature by all. Otherwise different terms and classifications will be found, making comparison of records practically impossible.

My plea is chiefly for more systematic research work in the wards of our public hospitals, and my proposition is that such work should be regularly organized by the superintendent as a legitimate branch of his institution. Without replacing to any extent work attempted by individual members of the staff, that which I have in mind should be carried out by the hospital organization, and would require unselfish "team-work" on the part of those engaged in it. You will all agree that to bring about such team-work in the average hospital staff will constitute one of the most difficult problems the superintendent has set for himself for a long time. But by care, patience, diplomacy, firmness of purpose, and now and then the resignation of some member unwilling to cooperate, it can usually be done.

To illustrate my meaning, let me suggest the following scheme for such work, adapted to a large general hospital, which has no fund for research work, and in which the staff is made up of men of at least average professional ability.

1. At the beginning of the year, there will be a meeting of the various chiefs of staffs, with the superintendent of the hospital. At this meeting, the subjects of which intensive studies are to be made over certain specific periods are selected and assigned to individual chiefs of the various services and their staffs. As far as possible, such assignments would be made according to the individual preferences, and interest of those made responsible for the work. For instance, to Dr. A and his staff, is assigned the subject of lobar pneumonia. Dr. B and staff choose diabetes and the metabolic problems connected with it; Dr. C and staff elect gall bladder conditions, while Dr. D and staff draw the subject of fractures.

2. During the periods determined on, which may be six months or a year, and which will vary according to the subjects, all cases admitted to the public wards will be classified and each class will be assigned to the division of the staff to which that particular branch is allotted for study.

Thus, in our example, all cases of pneumonia admitted to the hospital for a given period are assigned to Dr. A and staff; all diabetics to Dr. B and staff, all gall bladder cases to Dr. C, and all fractures to Dr. D.

3. At the end of the specified period, each group of men would be required to write a complete report of their study of the problem assigned to them.

4. A meeting, or if necessary, a series of meetings, of the entire staff would then be called, at which these reports would be read and discussed.

5. The reports themselves, with the most valuable part of the discussion, would be offered for publication in one of the leading medical journals, being published as the work of the hospital, rather than as that of individual members of the staff.

6. This done, another meeting of the committee would be called, and new subjects selected and assigned as before.

There are few public hospitals in the country in which such work could not be organized. The expense connected with it need not be large and the results would be far reaching.

At bottom everything depends on the presence or absence of one single element in the soul—hope.—Amiel's Journal.

THE HELEN NEWBERRY NURSES' HOME*

An Unusually Beautiful Example of Architecture Found in the Nurses' Home of Grace Hospital, Detroit—Homelike and Attractive Features

By HARRIET LECK, R.N., Principal Grace Hospital Training School for Nurses, Detroit, Mich.

COMPLETE and practical plans for a nurses' home are those which tend to the cultivation and development of the social life, health, and happiness of the nurse.

Fig. 1. The Helen Newberry Nurses' Home of Grace Hospital, Detroit.

In the year 1898, the boards of directors of the Grace Hospital, Detroit, decided that there must be permanent quarters provided for the nurses of this institution. One of the founders of the hospital, Mr. Chaffee, gave an acre of land which at that time was not much more than a cow pasture.

The building was planned and built by Albert Kahn of Detroit, who produced a home capacious, substantial, and beautiful, at a cost of about $17,000. After it was finished the president of the lady board of managers not only covered the cost but furnished the first floor and during her lifetime kept it in repair. The home bears her name and is a memorial to Mrs. Helen H. Newberry.

Since her death, her daughter, who succeeded her on the board, has kept alive interest by giving furniture, redecorating, etc., so that the building is now in good repair, and, with a wing built in 1911 and an addition to the wing built in 1915, it accommodates 140 nurses.

The home stands just across the street from the hospital, facing the east, and has a frontage of 122 feet. It is of old English architecture, somewhat of the Oxford type. It gives an impression of real beauty unusual in institutional buildings. The wing is on the south and extends from the west side of the main building. This part of the building is planned and used entirely for nurses' rooms. The floors are terrazzo, easily cleaned. One the west end of the fourth floor is a sleeping porch which is very popular in summer. The floors of the main building are stained hardwood. The main hall is wide and airy and the rooms are, with a few exceptions, double. Each floor has two baths and toilet rooms.

Fig. 2. The hall in the Helen Newberry Nurses' Home, showing some of the unique and beautiful architectural effects.

In the basement are two trunk rooms; the linen

*This article is the fourth in a series of articles on nurses' homes. The first article, which appeared in January was by Olof Z. Cervin, and was entitled "Nurses' Homes and Some of Their Requirements." The second, by C. Happersett and Louis H. Rush, was on the "Kistler Memorial Home for Nurses of Lock Haven Hospital," and appeared in February. The third, "New Nurses' Home for Minnequa Hospital, Pueblo, Colo.," by R. W. Corwin, appeared in March.

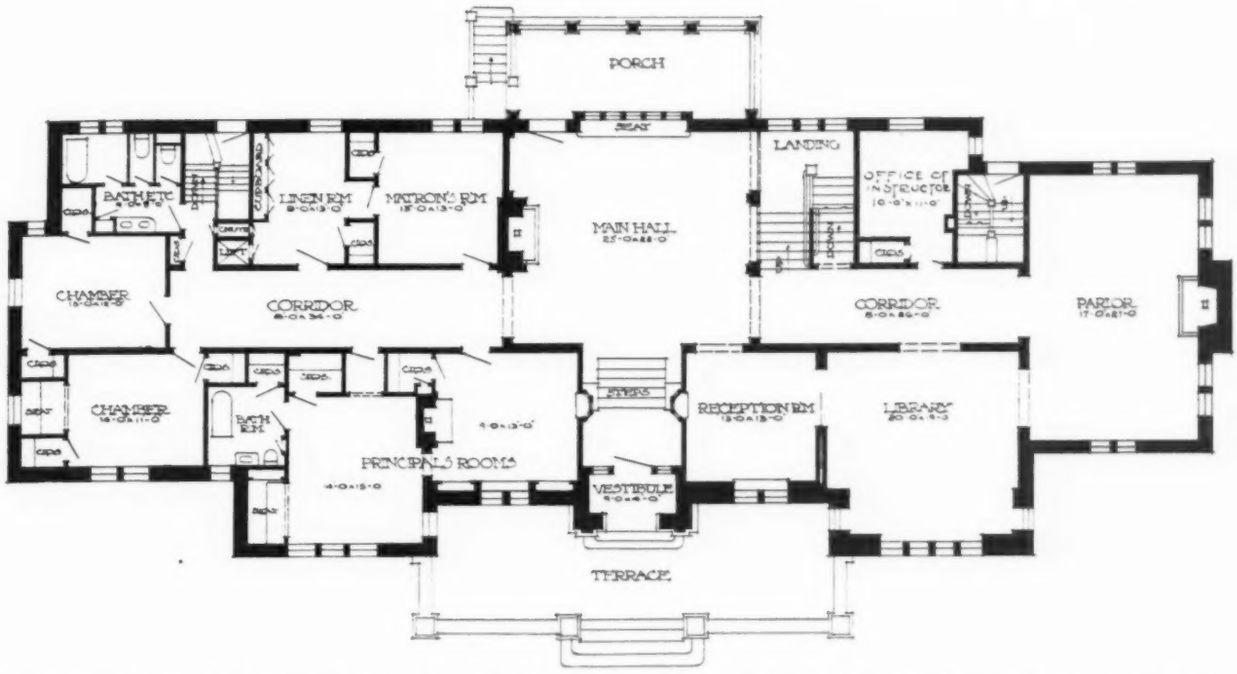
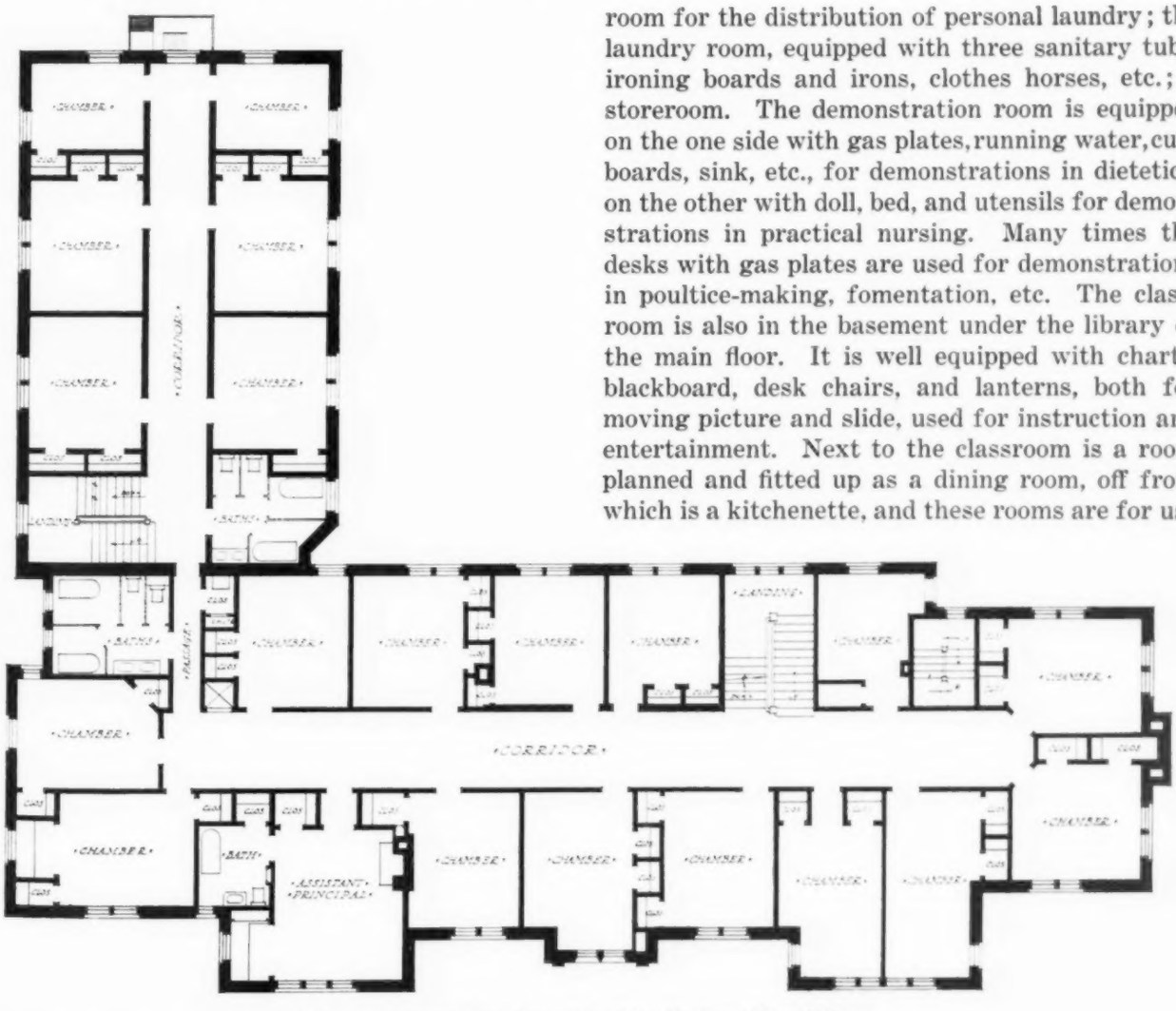


Fig. 3. The first floor plan of the Helen Newberry Nurses' Home. A wing, not shown in this plan, has been added to the home. The arrangement of the rooms in this wing is the same as that shown in the following illustration, the plan of the second floor.



room for the distribution of personal laundry; the laundry room, equipped with three sanitary tubs, ironing boards and irons, clothes horses, etc.; a storeroom. The demonstration room is equipped on the one side with gas plates, running water, cupboards, sink, etc., for demonstrations in dietetics, on the other with doll, bed, and utensils for demonstrations in practical nursing. Many times the desks with gas plates are used for demonstrations in poultice-making, fomentation, etc. The classroom is also in the basement under the library of the main floor. It is well equipped with charts, blackboard, desk chairs, and lanterns, both for moving picture and slide, used for instruction and entertainment. Next to the classroom is a room planned and fitted up as a dining room, off from which is a kitchenette, and these rooms are for use

Fig. 4. The second floor plan of the Helen Newberry Nurses' Home.

for the nurses in their "class spreads," "corn roasts," and the serving of refreshments at parties, at which time the classroom, too, is made unrecognizable in its homelike appearance. The fireplace adds to the coziness of this room, and the decorations are light and cheerful. The class and lecture rooms are all used at times by the polyclinic and medical societies for meetings, and lunches are served after these meetings.

The main entrance to the home is striking, the woodwork massive, and the impression made on the visitor is that on entrance to an English manor house—beautiful and homelike.

The main entrance hall, which is used as a living room, is broad and has a high-beamed ceiling, a great old-fashioned fireplace on the one side and the main stairway of hand-carved black oak on the other. At the back of the hall there are delicately designed leaded glass windows and a window seat almost the length of the room. A massive mantel of carved black oak reaches over the fireplace nearly to the ceiling, and the hall table and chairs are of the high cathedral type. Here is a favorite gathering place for nurses off duty, for the meeting of friends or classmates, for the receiving and reading of mail on cool days around the grate fire; on warm days the tendency is toward the porch overlooking the tennis-court leading out from this room. One hardly enters the house without finding this attractive, livable room occupied.

The reception room, the library and the parlor, equipped with magazines, books, and music, respectively, give opportunity for more privacy. The furnishings and decorations of each are different, yet all are in harmony when thrown together and give ample room for monthly class meetings when programs are given for the benefit of the whole school, or when parties or dances are resorted to periodically. On these occasions the friends are glad to avail themselves of our hospitality and the young ladies are proud to have them come. The reception room and parlors and the wide halls and doorways connecting them with the entrance hall living room make it possible for the first floor to be used as a whole for entertainment purposes.

The office of our instructor is across from the library at the head of the basement stairs, a convenient place for nurses passing to and from either class or duty. On the other side of the entrance are the rooms of the principal, the home supervisor or "house mother," the linen and supply room, and what we term the "sick room," where nurses with slight illnesses are cared for, away from any danger of infection to room or classmate and convenient to the visits of the doctor, the nurse, and the house mother.

Our aim has been, with such possiblities of environmental influence on the nurses, to have the first floor used to advantage as well as every other part of the building. The tendency of the pupil nurse, as a rule, is to spend her time off either in her own room or out of the home entirely. This must be guarded against by having the rooms for general use so attractively planned and furnished that pupil nurses will naturally "drop in" because of the "homey" atmosphere which permeates them.

A nurses' home should be an "uninstitutional institution," planned and equipped with the view of recreation, of rest and freedom from any reminder of professionalism, and should breathe, as it were, an air of wholesomeness, coziness, comfort, and hominess, because the nurse is first of all a young woman. She is at the impressionable age, and should have just the environments thrown about her that will not only develop her natural instincts but will bring out the best in her as a nurse.

Hospital Held Not Liable for Negligence of Nurse

The history of a recent case which is of interest to hospitals is as follows:

Suit was instituted in the Municipal Court of Chicago by S. J. McCaull against the Presbyterian Hospital. The plaintiff alleged negligence, carelessness and unskillful treatment in that he had been severely burned and scalded while under the care of a private nurse in that hospital. After hearing the evidence and arguments of counsel, the court instructed the jury to find for the defendant on the ground that while the Presbyterian Hospital is not an institution established by and supported through trust funds, yet, inasmuch as it is maintained to some extent by trust funds and the annual deficit is made up by donations, it comes within the class of institutions which, as charitable foundations, are not liable for the negligent acts of their servants; and, moreover, that the private nurse employed to care for the patient was not a servant of the hospital.

The cases referred to by the court in support of this were: *D. M. Stewart* v. *St. Helena Sanitarium* (Vol. 26, California Appellate Court, Civil Number 1733), *Morrison* v. *Henke* (Wisconsin Supreme Court, 1916), *Tucker* v. *Mobile Infirmary Association* (68 Southern Reporter 4).

The case of *McCaull* v. *The Presbyterian Hosiptal* was assigned the Number 210, 324. Other cases cited as bearing on this case were *Parker* v. *Northwestern University* (218 Illinois 381) and *Tollefson* v. *Ottawa* (228 Illinois 134).

A Yorkshire recruit walked up to a major on parade and casually asked: "'Ast tha seen aught o' B Coompany?"

The major exploded: "What the devil do you mean by daring to address me like this? Stand to attention at once and salute when you address an officer. Don't you know an officer when you see him? I'll tell you."

A long explanation followed of the marks of rank, at the end of which the man from Sheffield wearily observed: "Aye, but tha 'asn't told me if tha's seen aught o' B Coompany."

THE NEW SWEDISH LUTHERAN HOSPITAL AT MOLINE, ILL.

New Type of Windows—Ceilings of Corridors Used as Pipe Carriers—Other Novel Features in a Compactly Built, Workable, Modern Institution

By OLOF Z. CERVIN, Architect, Rock Island, Ill.

THIS hospital is the latest of a long series of similar institutions under the care of the Swedish Lutheran Augustana Synod. A special effort was, therefore, made to keep fully abreast of all modern and accepted improvements. It should be unnecessary to state that such items as flush doors, coved corners, silent nurse calls, sun parlors, automatic elevators, and bubbling fountains are a part of the scheme.

Fig. 1. New Lutheran Hospital. General view.

The building is located on the north brow of the Mississippi bluffs, overlooking the beautiful river. A U-shaped plan was adopted in the beginning to provide as many rooms with sunlight as possible. The ground slopes to the west, and all of the kitchen part will be above ground, though the remainder of this floor is a high basement. At present only the east wing has been erected and connected with the residence already on the site, and now converted into a nurses' home. The main kitchen and office are located there temporarily. The capacity of this part is 53 beds, or, when filled to utmost, 60 beds. The total capacity of the hospital, when completed and not crowded, will be 134 beds. The halls, toilets, and sink room floors are terrazzo, without any sand in the aggregate. The bed room floors are of narrow hard maple strips, only $1\frac{3}{8}$ by $\frac{3}{4}$ inch, such as are used in dance halls..

The toilet arrangement has proved especially acceptable. Separate toilets with basins are provided for men and women in each wing close to an outside window. Between these is the bath room, with high windows in the wall. One soil pipe serves all three rooms, and the space around them ventilates the bath room. Thus all three of these rooms can be used without going through one to reach another.

Each nurses' sink room or

Fig. 2. New Lutheran Hospital. One of the private rooms.

utility room is equipped with the following fixtures: slop sink, laundry tray, utensil sterilizer, bed-pan warmer, blanket warmer, monolith table top, gas plate, steam connection for fomentation, and electric utility outlets.

Heating is by the Moline system of vacuum heat, and all radiators are suspended from the wall. In the boiler room are high- and low-pressure boilers, garbage burner, and hot water tank. A gas incinerator is located on the third floor. Positive ventilation is provided for the toilets, sink rooms, halls, and diet pantries, partly by fan and partly by utilizing the space around the steel smoke pipe. A new type of window, opening first at the meeting rail and then at top and bottom, was adopted throughout. In winter abundance of fresh air is obtained without any draft.

Fig. 3. New Lutheran Hospital. Operating room.

Fig. 4. New Lutheran Hospital. Nurses' station.

The ceilings of the halls are suspended 12 inches below the concrete slab, and trap-doors are placed every 15 feet. Piping is run in this space, and, as future inventions may demand it, this space can be used for additional piping or wiring, which will to a large extent be concealed. The stair balustrade is solid plaster, eliminating spindles and newels, so as to be easily kept clean. Stairs and elevator shaft are inclosed, doors cutting off noises that would travel from floor to floor. The nurses' station is recessed in the corner of the hall. It has telephone, white glass top tables, small sink, medicine cases, linen cases, record racks, and drawers. An unusual amount of privacy is obtained by this recessing.

On each floor are several small private rooms, only 100 feet floor space, each somewhat smaller than customary. These have proved popular with patients. A room has been provided with lockers for special outside nurses. Hospitals have been criticised for omitting this room.

The laboratory will be in the third story over the children's ward. A temporary laboratory is now in the basement, where sterilizing rooms are shown.

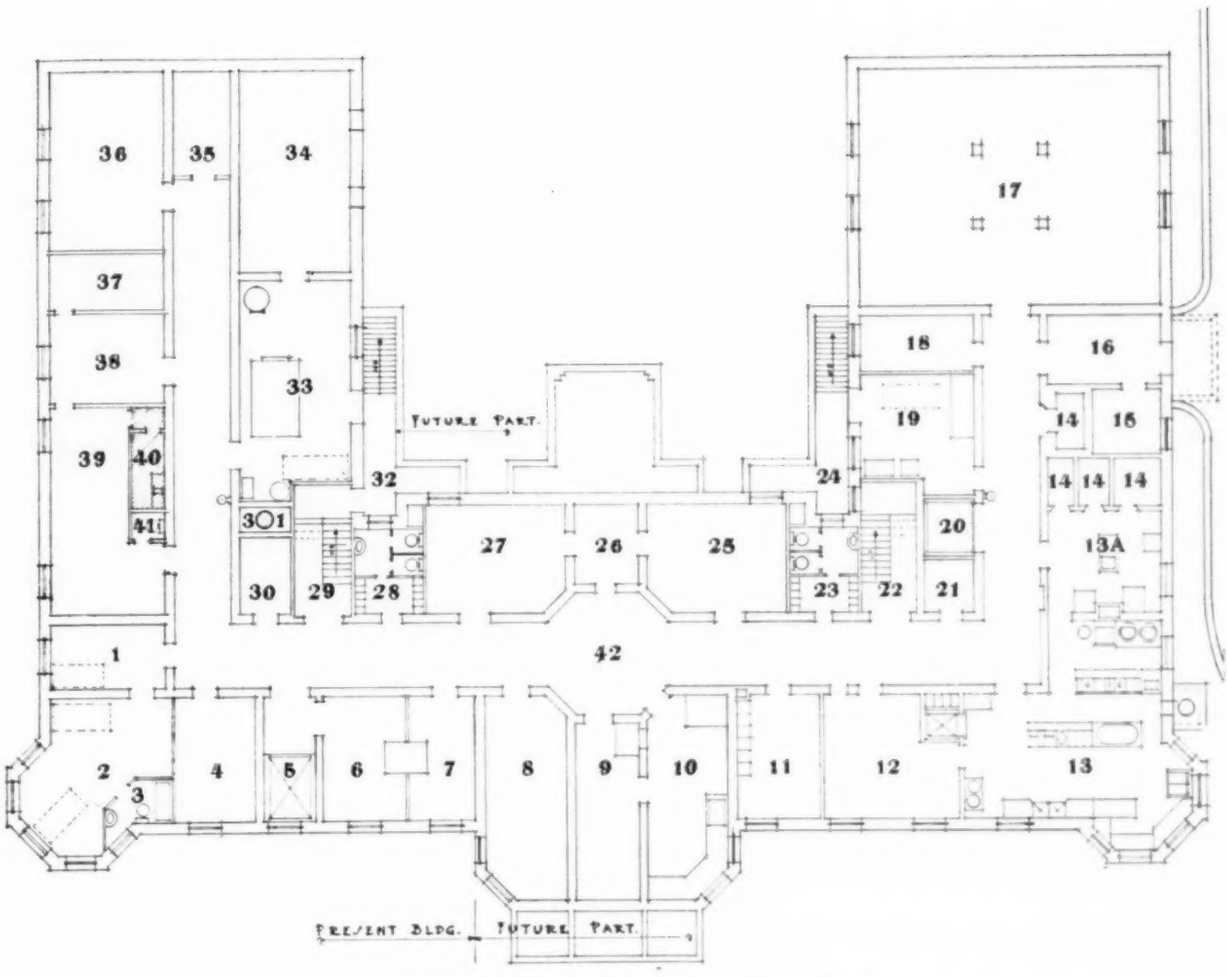


Fig. 5. Lutheran Hospital. Basement floor plan.

1. Attendant.
2. Isolation ward.
3. Bath.
4. Storage.
5. Elevator.
6. Sterilizer.
7. Clean clothes.
8. Drug storage.
9. Bakery storage.
10. Bakery.
11. Special nurses' locker room.
12. Help's dining room.
13. General kitchen.
13A. Vegetable preparation room.
14. Refrigerators.
15. Ice machine.
16. Entrance.
17. Future laundry.
18. Storage.
19. Morgue.
20. Freight elevator.
21. Storage.
22. Stair hall.
23. Female help's toilet.
24. Area.
25. Kitchen storage.
26. Kitchen storage.
27. Kitchen storage.
28. Male help's toilet.
29. Stair hall.
30. Vacuum cleaner.
31. Smokestack.
32. Area.
33. Boiler room.
34. Coal room.
35. Meters.
36. Hydropathic rooms.
37. Plate storage.
38. X-ray treatment room.
39. X-ray room.
40. Dark room.
41. Toilet.
42. Rotunda.
C. Clothes closet.

The exterior is a variegated red vitrified brick. The construction is reinforced concrete for floors, brick bearing walls, and gypsum partitions. The outside walls are furred with gypsum slabs. The total cost of the part erected, including considerable remodeling in the nurses' home and architect's fees, x-ray and other equipment, but not furniture, was about $62,000.

The hospital was opened in February of this year, enrolling during the first week twenty patients.

Reorganization of Canadian Military Reconstruction Work

The Publicity Department of the Military Hospitals Commission of Canada advises that the Canadian Government has seen fit to reorganize in some degree its repatriation work. The element of dual control in the administration of hospitals has been eliminated by continuing the complete jurisdiction of the Militia Department (the army) over returned soldiers up to the date of their discharge. All other problems, including the vocational training, provision of artificial limbs, orthopedic appliances, pensions, etc., come under a new department. The organization built up by the Military Hospitals Commission will continue to serve the new department, but the wish of the Army Medical Corps that it have complete control of the institutions in which it performs its services to the returned soldiers has been acceded to. The cases requiring prolonged or permanent treatment will, at the point where the Army Medical Corps deems that a finality in their treatment has been reached, be transferred to the jurisdiction of the new department. This class of cases will include epileptics, insane, tuberculous, and men with such noncorrectible physical disabilities as will necessitate their vocational reeducation.

We can give only what we have. Happiness, grief, gaiety, sadness are by nature contagious. Bring your health and your strength to the weak and sickly, and so you will be of use to them. Give them not your weakness but your energy—so you will revive and lift them up.—Amiel's Journal.

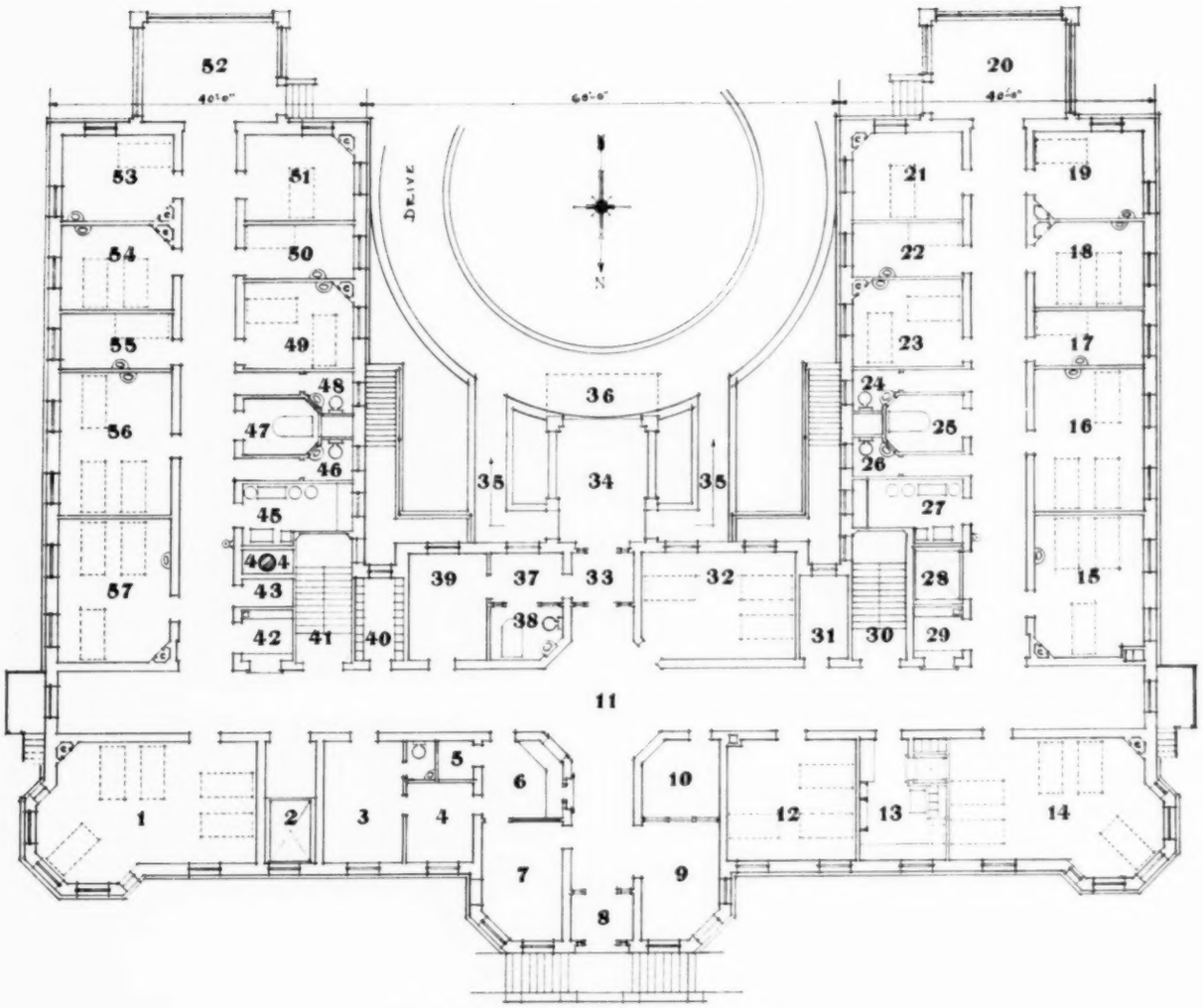


Fig. 6. Lutheran Hospital. First floor plan.

1. Five-bed ward.
2. Elevator.
3. Matron.
4. Bookkeeper.
5. Vault.
6. Office.
7. Superintendent's room.
8. Vestibule.
9. Reception room.
10. Doctors' coat room.
11. Rotunda.
12. Three-bed ward.
13. Diet pantry.
14. Five-bed ward.
15. Three-bed ward.
16. Three-bed ward.
17. Private room.
18. Two-bed ward.
19. Private room.
20. Sun porch, glazed.
21. Private room.
22. Private room.
23. Two-bed ward.
24. Men's toilet.
25. Bath.
26. Women's toilet.
27. Nurses' duty room.
28. Freight elevator.
29. Nurses' station.
30. Stair hall.
31. Wheel chairs.
32. Three-bed ward.
33. Vestibule.
34. Porch.
35. Inclines.
36. Canopy.
37. Admission room.
38. Bath.
39. Doctors' examination room.
40. Patients' locker room.
41. Stair hall.
42. Nurses' station.
43. Janitors' closet.
44. Smokestack.
45. Nurses' duty room.
46. Women's toilet.
47. Bath.
48. Men's toilet.
51. Private room.
52. Sun porch, glazed.
53. Private room.
54. Two-bed ward.
55. Private room.
56. Three-bed ward.
57. Three-bed ward.
49. Two-bed ward.
50. Private room.
C. Clothes closet

A SUCCESSFUL SMALL COMMUNITY HOSPITAL

Economy and Loyalty of Employees Factors in Success—Creditable Record of Holden Hospital, Carbondale, Ill.

The following letter, received by THE MODERN HOSPITAL from Mrs. Gertrude Allen, superintendent of the Holden Hospital at Carbondale, Ill., tells an interesting story of the way a community need has been met in the towns of Carbondale and Litchfield and the surrounding counties:

"The Holden Hospital of Carbondale, Ill., is the successor of the Holden Memorial Hospital of Litchfield, Ill., and the Amy Lewis Hospital of Carbondale, Ill. It is operated by the Woman's Home Missionary Society of the Southern Illinois Methodist Conference.

"The hospital accommodates thirty patients and has a modern operating room, sterilizers and x-ray. The charge for ward beds is from $10.50 to $12.50 per week; private rooms from $15 to $20 per week. The operating room fee is $5.00, and we charge for all medicines and dressings. The doctors furnish their own catgut and buy their rubber gloves from the hospital.

"Last year our free bed work amounted to a little over $1,000. Up to the present time I have had no difficulty in meeting all expenses. We depend entirely on the hospital earnings and various donations that are sent in from the different societies of the Southern Illinois Methodist Conference.

"I consider it a matter of economy to employ enough nurses and other help to care for the patients and equipment well, and employ only those who are loyal and interested in the success of the hospital to the extent that they are not wilfully wasteful. Economy is taught and carried out from the kitchen to the superintendent's office. Great care is exercised in buying in all departments and especially in the kitchen."

The hospital was opened for patients May 1, 1916, and the year's report is interesting:

Total earnings of the hospital	$ 9,452.20
Donations	1,285.75
Total	10,737.95
Total expenditures of the hospital	10,096.85

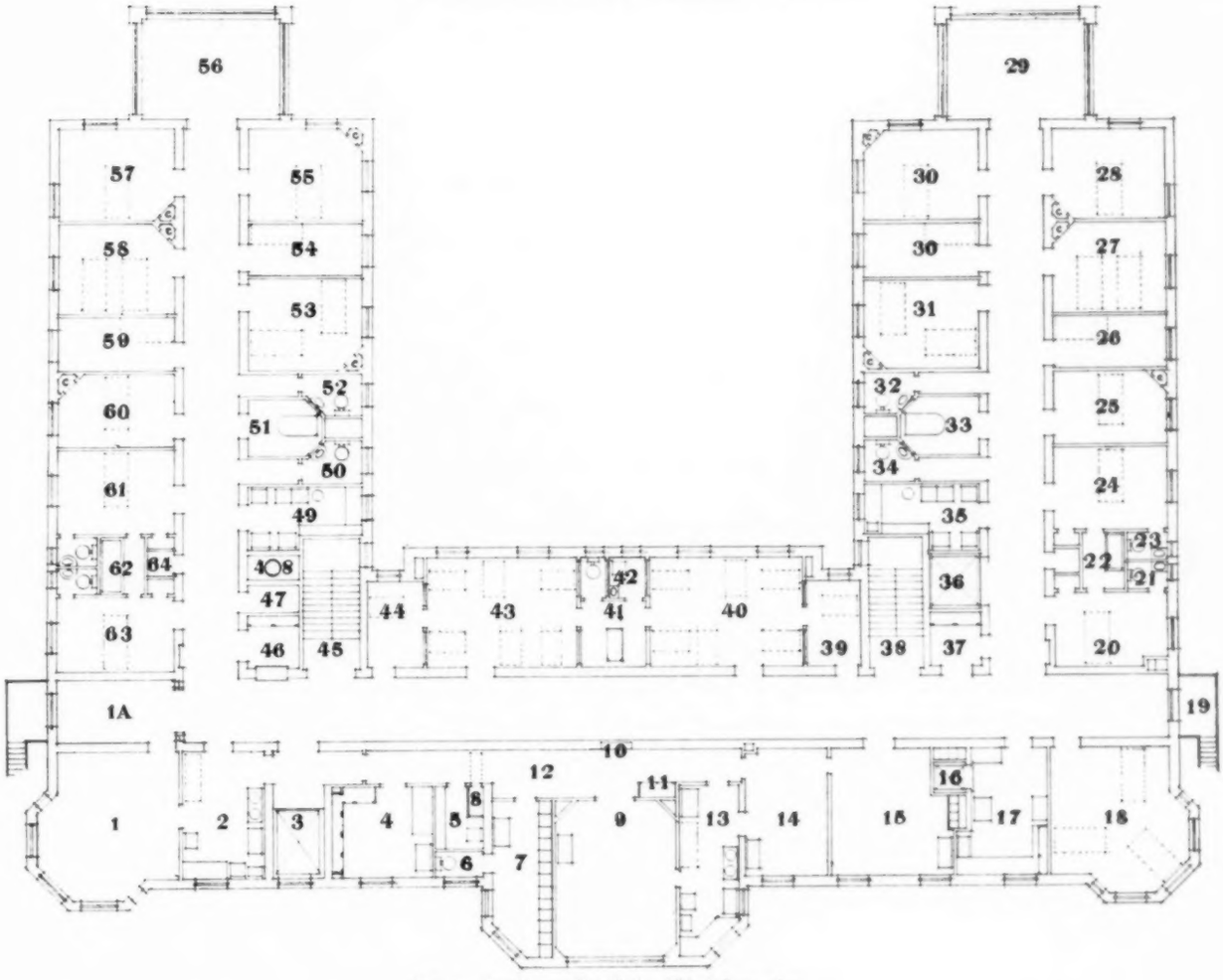


Fig. 7. Lutheran Hospital. Third floor plan.

1. Operating room.
1A. Etherizing room.
2. Sterilizing room.
3. Elevator.
4. Nurses' work room.
5. Sink room.
6. Doctors' toilet.
7. Doctors' wash room.
8. Blanket warmer.
9. Operating room.
10. Instrument case.
11. Supply case.
12. Operating passage.
13. Sterilizing room.
14. Small operating room.
15. Eye, ear, nose, etc.
16. Dumbwaiter.
17. Diet pantry.
18. Three-bed ward.
19. Fire escape.
20. Private room.
21. Toilet.
22. Bath.
23. Toilet.
24. Private room.
25. Private room.
26. Private room.
27. Two-bed ward.
28. Private room.
29. Sun porch, glazed.
30. Private room.
31. Two-bed ward.
32. Men's toilet.
33. Bath.
34. Women's toilet.
35. Nurses' duty room.
36. Freight elevator.
37. Nurses' station.
38. Stair hall.
39. Quiet room.
40. Children's ward.
41. Bath.
42. Sink room.
43. Children's ward.
44. Quiet room.
45. Stair hall.
46. Nurses' station.
47. Incinerator.
48. Smokestack.
49. Nurses' duty room.
50. Women's toilet.
51. Bath.
52. Men's toilet.
53. Two-bed ward.
54. Private room.
55. Private room.
56. Sun porch, glazed.
57. Private room.
58. Two-bed ward.
59. Private room.
60. Private room.
61. Private room.
62. Bath.
63. Private room.
64. Janitors' closet.
C. Clothes closet.

In this time 362 cases were treated and the amount of free work done totaled $1,002.

This little hospital, which was formerly a residence and is beautifully situated for hospital purposes, was taken over and operated by the Woman's Home Missionary Society of the Southern Illinois Conference and has definitely proved that such a hospital cannot only fill the community need of hospital service but under good management may pay for itself and do some free bed work with only a reasonable amount of help and support.

The Tommies in hospitals, it seems, do not always take the patronizing efforts of great ladies to cheer them up with the utmost seriouness. The following tale is told of a sorely wounded man in one of the London hospitals. An imposing lady passing through said, "Why, my poor man, are you wounded?"

"Oh, no, lady," replied the heap of bandages on the bed, "You see it was like this. Our orderly, he was that untidy. Always being reprimanded for it, but it didn't do no good. One night he went out into No Man's Land and ate an orange in the moonlight. Left the peelings all round, he did. Next day we was ordered over the top and just as I went over I slipped on one of them orange peelings and cut my head on a salmon tin. That was how it was, lady."

A passing visitor in a Canadian hospital said to a patient, "So you've lost your leg, my poor man?" "No, ma'am," said Tommy, "it's under the bed."

Infection

A baby smiled in its mother's face;
The mother caught it, and gave it then
To the baby's father—serious case—
Who carried it out to the other men;
And every one of them went straight away
Scattering sunshine thro' the day.

The MODERN HOSPITAL

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After the War—What?

There are approximately seven thousand hospitals in the country; they have cost a lot of money to build and equip and organize, and they are costing a lot of money to administer—the details do not so much matter for the purpose we are about to discuss. Many of these hospitals are not full of patients at all times; some of them are never full; there are many other hospitals which are overcrowded all the time and that never have enough room for the sick who apply to them for care. Many of these hospitals, sometimes those that are most needed, are just one jump ahead of the wolf, while others that are not greatly needed in their community have money to waste.

This war is to be a great leveler; it is to be an epoch of stock-taking, of inventory. Huge upheavals are taking place; what would have been socialism—even rank anarchy—two or three years ago, is now a conservative, restrained, and entirely commendable method. In the cataclysm through which we are passing, the hospitals are not to be isolated; rather they must participate and also pass through the fire of regeneration. Moreover, radical methods that would not have been tolerated in another day are now meritorious and justifiable. Why, then, is this not an opportune time for us to begin to think about hospital reconstruction—not the reconstruction of building, not the reconstruction of the organization of medical staffs and administrative forces—but the reconstruction of the whole system of hospitalization of the people?

In Germany before the war, every patient who entered a hospital was paid for; there were no charity patients; either the municipality or province or the state or a commercial corporation paid for the patient. There was no overlapping of energy or effort or expenditure, because hospitals were built where and as they were needed, according to the dictates of a governing board, which was maintained for the purpose, whose personnel was trained for the business that it had to do, and whose members retained their posts as long as they gave good service to the public. It might be asserted that, since we are at war with Germany, it is not an auspicious time to quote Germany's methods of doing things. The answer is, that because we are at war with Germany, and because we are finding the task so huge, we should use, where we can, the efficient methods which Germany has become great enough to oppose us as she had done; and we cannot do better just now than to think about the efficiency of Germany's system of hospitalization.

The German plan is autocratic in a measure, but not altogether so, and we need not accept any part of the autocracy in the process of getting what is good for ourselves out of Germany's hospital plans.

There has been in our hospital world a tremendous overlapping, the expenditure of huge sums of money, in energy that was of no good use. Roughly speaking, we have expended five dollars, perhaps even ten dollars, that can be considered as having been utterly wasted, for every dollar that has gone to the spot and done the work for which it was intended. This country is dotted over with partially worthless, useless, and impractical hospital buildings, and there are thousands of communities that are deprived of hospital care for their sick—solely because some individual or group of individuals does not choose to give the money for the purpose.

Why would not something like this be a good thing: Have one of the present agencies of the government, like the Public Health Service, or a new agency to be created for the purpose, take over all the hospitals of this country, to be administered as a great army is commanded from one central head, and then by the distribution of subordinate authority, divide the responsibilities. Ask Congress to pass a law imposing a tax for hospital purposes, the sum of this to be established from year to year on a basis of hospital

population and the per-capita cost of administration. The hospital would be administered by a small technically trained governing board. The board would have the right to order any given hospital closed if it were not needed; it would have the right to order, say three hospitals serving a single community, to combine under one administrative head. It would have the right to visé and approve plans of hospital construction, when a new hospital was to be built or alterations were to be made. It would have the right to order the employment of a new executive officer or administrator, when it ascertained that the present administration was not competent.

This board would have no right whatever over independent or private hospitals. The only punishment for disobedience of its orders would be the withholding of the government per-capita for administration.

This board would not assume the function of finding funds to create new hospitals or to find sites or to appropriate building funds; this function would be left to the communities, it being definitely understood and written into the law that only those hospitals could receive government funds that choose to come in under the government law—just as the banks of the country can now come in or stay out from the operations of the banking reserve law.

This country can never again be as it was before the war; we can never again get back to our old slipshod, wasteful, and empiric methods. And if we are not to go back, we must go forward, and if we are to go forward, we must go forward constructively, building as we go.

This war is to develop and almost complete the hospitalization of the people of this country. We are going to be short of doctors when this war is over, either because of the wastage of the war, or because of the constantly diminishing number and the constant elevation of the standards in the medical schools, and the consequently lessening number of graduates in medicine. If the doctors are to be fewer in number, then we must employ methods that conserve the energies and activities of those who practice; and for this reason it will be necessary for us to assemble the sick where they can be most easily cared for by the smallest number of doctors.

Precisely the same situation holds good in regard to nurses; there was a great dearth of nurses before the war began, and if the hospitals grow in number, as they are bound to grow, the dearth of nurses after the war is to be tremendously increased, and we must husband our resources in nurses by assembling patients in hospitals. The same thing is true in regard to interns.

This war is to develop, as the fast has never been developed before, that the sick man or woman or child cannot possibly get the best diagnosis and the best treatment that modern medicine now has to give, except in a hospital,—because the laboratory, the x-ray, and the thousand and one auxiliaries to diagnosis, are assembled nowhere except in hospitals. And the same is true of the essentials to the modern treatment of disease—those are assembled nowhere except in hospitals. Hence, after this war is over, every sick man, woman, and child will have a right and will insist upon the right to be cared for in a good hospital. If these things are true—and they are true—then in another five years at least five times as many sick people will be cared for in hospitals in this country as could now be cared for, and in ten years the number will be quadrupled.

Already the financial burden of the hospitals is tremendous—almost three-quarters of a billion dollars annually, for maintenance and new construction, and from at least 50 percent of this full efficiency is not obtained. In other words, the one-half billion dollars that are now being expended for the care of the present hospital population will take care of a much larger number of sick and injured if properly expended even under our present administration. If we change that system of administration, as we have suggested above, the amount of money now expended would well take care of a vastly larger number of sick that we are now taking care of.

The home care of our present sick population demands an immeasurable, but undoubtely huge sum of money annually.

We have discussed often the recent hospital survey of this country which showed that approximately 12 percent of the sick people are being taken care of in hospitals and 88 percent in homes. If it costs one-half billion, the annual expenditure for maintenance of present institutions, to take care of one-eighth of the sick population, then mathematically, it would cost four billion dollars annually to take care of the total sick population. But we know perfectly well that it costs more to take care of a sick person at home than it does in a hospital, so it is costing vastly more than four billions annually to take care of our sick, and for this money we are getting nothing or practically nothing in the way of the thousand and one auxiliary health services for our people that the hospitals are able to give—service in preventive medicine, service in sanitation and

hygiene, education in proper methods of living, clothing, housing and foods.

Why not pool this sum and expend the pool as a national obligation? Moreover, at the present time the great burden of home care of the sick is falling hardest on those the least able to stand it. Why not shift the burden and by the pooling of our hospital fund, by way of taxation, let the rich help to take care of the poor?

Some of these things are really worth thinking about and the time to begin to think about them and discuss them is now.

Compensation for Interns

The question of compensation for interns is necessarily many-sided. Hospitals vary greatly in size and also as to the character of their work. Much depends upon what a hospital has to offer in the way of educational advantages, what service it expects the intern to render, and also the amount of responsibility placed upon him.

Almost without exception the advantages of an internship in the large public hospitals, other large general hospitals, especially those affiliated with universities, and certain special hospitals, have been considered so desirable that no compensation, other than board, room, and laundry, and possibly uniforms, has been customary. In the past, during his freshman year the medical student would begin to plan for an internship in the best hospital available immediately after graduation, and the competition for such places has been so keen that salaries were neither offered nor requested. Certain hospitals requiring interns to carry unusual responsibilities or not offering certain desirable opportunities for experience have always had to pay for intern service.

The recent demand of the interns in the St. Louis City Hospital (a general and emergency hospital of over eight hundred beds) for a salary of $25 per month, in addition to board, room and laundry, brought the compensation question prominently to the attention of many hospital administrators throughout the country.

To many the question of compensation has been involved with that of service. A number of hospitals already paying $25 to $50 per month with a bonus arrangement of $100 or more for the completion of a year of service and offering good opportunities for intern experience, have had difficulties annually in the service rendered by some of their interns. Many interns, of course, strive to perform their full duty at all times, but some will always fail to give good service and others will leave at almost any time regardless of agreement or bonus, if they think they see something better. The arrangement, therefore, of a written agreement, salary with bonus and exceptional educational opportunities has not provided the uniformly good service which hospital administrators desire and to which the sick are entitled.

The states of Pennsylvania, New Jersey, North Dakota, and Rhode Island are already requiring not less than one year of intern experience in a satisfactory hospital after graduation before issuing a license to practice medicine in these states, and the same requirement will become effective in Illinois and Michigan during 1921 and 1922 respectively. Also, the medical colleges of the University of Minnesota, Leland Stanford, University of California, Northwestern University, University of Vermont, and Rush Medical School have already made a hospital year after completion of school work a requisite before granting a medical diploma. These movements are rapidly gaining ground, due to the fact that they are primarily planned for the best interests of the patient and secondarily for the betterment of the individual physician.

Shall we ever be able to obtain uniformly satisfactory intern service until one or other, or both, of the above-mentioned plans are more widely adopted? Perhaps certain hospitals should be more liberal in certain forms of compensation. We know from experience that compensation alone will not correct our most important intern troubles.

We believe that it will be to the interest of both the physician and the hospital, and decidedly to the interest of the public, when medical requirements are such that those contemplating the study of medicine will have to arrange their plans for a year of good hospital work before being permitted to assume private practice. Then fair and satisfactory service will be given and the question of compensation can be easily adjusted. We will have better physicians, better hospitals, no one will lose and everyone, including the physician, patient, and, last but not least, the ever-burdened hospital administrator, will share in the returns.

The First Hospital Survey of the American College of Surgeons

Details of the first hospital survey of the American College of Surgeons are now in possession of the hospitals. We are glad to note that it lays primary emphasis on the care of the patient, and that the spirit back of the survey is free from muck-raking and fault-finding.

The plan is a drive at too much surgery, at in-

competent surgery, and at indifferent, lax, lazy, and careless diagnosis and treatment. The factors in hospital work which are the basis of the standardization program are: the keeping of case records; the utilization of these records as tests of efficiency; the clinical laboratory facilities; and character of the staff.

The surgical point of view may appear to predominate in the first questionnaire. This, of course, would be only natural. If this apparent predominance is found to be actual—if other equally important considerations have been somewhat overlooked in favor of surgical factors—this want of balance will undoubtedly be promptly corrected. In fact, the survey will undoubtedly be a source of education as well as information to the college itself.

About eight hundred hospitals to date have responded to the first inquiry of the college for data. Practically all hospitals worthy of the name will without doubt gladly cooperate in this survey. An awakening of public interest in hospitals is certain to follow. "I begin to feel a new faith in human nature," writes the head of one hospital concerning the work. This newly awakened interest means progress.

The Nursing Profession and the National Crisis

Those who try to keep watch and ward of the world's health and welfare know that a crisis exists which the nursing profession of this country must meet or be weighed in the balance and found wanting. From Florence Nightingale's time down to our own, we have been learning what the skilled care given by a woman's hand has come to mean, and now is the time when that skilled care is needed as never before.

We have several millions of our own men in uniform, here and overseas, who must be cared for through the ordinary illnesses which will come to a certain percentage of them, the communicable diseases, and the casualties which are beginning to come and which will continue to come while the war lasts. We have the care of our civilian population, our hospitals and public health welfare to account for, and again, stretching out ahead of us in almost an endless line, we have the aftermath of the war, with its wounded and tuberculous, its venereal diseases and diseases of malnutrition in the refugee and the civilian population of Europe, and the reconstruction and rehabilitation of the disabled soldier to fit him for civil and industrial life again. This means nursing and nurses.

To meet the great need, here and "over there," we have at the present writing about fifteen thousand women enrolled who have met the requirements laid down by the American Red Cross. Only about ten thousand of these are ready and willing to do service. We have a little more than another fifteen thousand graduates who could qualify, but who have not enrolled, and back of that again another thirty thousand or more who cannot qualify without further education to meet the Red Cross requirements and the requirements for examination by their own state boards of registration. Varying estimates of from thirty to fifty thousand have been made as to the number of graduate qualified nurses needed to take proper care of patients, both civil and military.

The national nursing organizations, through their representatives on the Council of National Defense, with the support of the national medical and surgical organizations, ask us under no consideration to lower the standards of nurses' training or to shorten the courses in the training schools. The nursing profession has worked and fought for those standards and has earned the right not only to take pride in them as admittedly superior to those of Europe but also to insist that they be not abrogated. On the other hand, a national need exists—perhaps even, God forbid, a national disaster—and the people of war-stricken Europe are stretching out their hands to this country for help. Nor should it be overlooked that the very standards in question may be imperiled by failure on the part of the nursing profession to meet the siuation. Those who doubt this have only to look abroad.

The insufficient supply of trained nurses in Europe has produced situations some of which are intolerable and some ludicrous. There have been women in charge of hospitals and giving orders to the trained workers whose only qualifications were good will and patriotism backed by their rank or social prestige. Many of us are familiar with the story of the countess who, when asked by the nurse in charge of a ward to disinfect a bed which had been occupied by a patient who had a serious infection, in order to prepare it in a hurry for a wounded soldier said, "I really couldn't you know; I have an engagement for tea," and that of another untrained society head worker who, when the nurse under her remonstrated at her request to get a man suffering from shell-shock on his feet, said, "Why, his feet are not shocked, are they?" Does the nursing profession of this country wish to see such responsibility usurped by the untrained, because the trained persist in shutting their eyes to the actual conditions? What are the government and the heads of the nursing profession doing and what are they going to do to meet those conditions?

It has been suggested, among other things, that the training schools admit for an eight-hour day

and for the full three-year course young women who live at home. Again, the suggestion has been made that nurses' aids would have to be put in service to meet our growing needs. Here, however, comes the thought of the impossibility of keeping order and discipline if admittance be given to the type of woman of leisure who would come in with the fixed belief in her own social superiority to the average trained nurse. Would it not be better if, when the time comes that we must call on the untrained women for help, we should recruit our aids from the nurses who cannot fully qualify and from the women of the substantial so-called middle class, if the term may be permitted—the farmer's daughter, who knows how to work and keep her milk-pails clean, the girl who has worked in an office and knows the discipline and order of business, and the woman from a home that has known its own responsibilities—and that all these should earn their shoulder straps under the trained worker who meets all standard requirements and who will have a definite rank?

And now the question before the house is this: Are we doing all that we can do, and as fast as we can do it, in this great welter of death, destruction, and disease to do our share to save and conserve life, and to make sure "that government of the people, by the people, for the people, shall not perish from the earth"? What are we doing to meet this necessary demand for skilled nursing care—and as promptly as possible?

Again Our Country Calls

It has been the privilege of many readers of this magazine to be engaged in one or more of the several branches of war work open to civilians. Practically every hospital in the United States is represented in active service by members of its nursing, medical, or administrative staffs. In fact, the hospital field has responded to the nation's appeal in such numbers that many of those physicians, nurses, and superintendents who have not had the satisfaction of serving with the colors are doing double duty at home. Certainly those who do the work of the hospitals cannot be charged, as a class, with failing up to this time to fulfill their obligation to the country. Neither will any hospital worker say that he has done all that he can afford to do or intends to do in this war for humanity and civilization.

Within a few days after this issue of THE MODERN HOSPITAL has been printed our Government will be soliciting subscriptions to a new Liberty Loan—a loan which may enable it, in cooperation with its associates in the war, to carry to conclusion the great struggle to make the world safe for democracy. The hospital people will meet their responsibility in this instance as they met it in May and in October of 1917. The fact that one subscribed to the first or second Liberty Loan, which is commendable in itself, has little significance so far as the present needs of the Government are concerned. IT WANTS MONEY NOW! On the other hand, those who have not yet bought Liberty bonds will not want to miss this opportunity to have a part in the great undertaking to which America has so gloriously set herself. For the civilian the Liberty bond is a mark of service of which the purchaser has a right to be proud. Hospital officials, because of their influential positions, will be able to do much in the way of promoting the sale of the new bonds, and it is assumed that they will impress on their doctors and nurses how important it is that every loyal American should subscribe to this loan according to his means.

The Liberty Loan is not a donation or a gift. It is, in all respects, an investment bearing a liberal rate of interest and is backed up by the promise and resources of the strongest government in the world. The privilege of buying a bond on small installments makes it possible for practically every American to participate in this loan, and it is the duty of everyone who can participate, even in the smallest way, to do so. He owes it to the country, to the men in the trenches, and to posterity. Some sacrifice may be necessary, but a people unwilling to make sacrifices does not deserve to win a war.

After all, the greatest sacrifice that a civilian can make in this war is so small beside the sacrifice that is made by the men and women who risk their lives at the front, that no one should hesitate to do his bit in the largest way that his circumstances will permit. THE MODERN HOSPITAL is confident that those who conduct the hospitals will not hesitate to go over the top with their dollars in this Third Liberty Loan Campaign.

Volunteer Workers in the Out-Patient Department

We have discussed in a preceding editorial the place of volunteer workers in the hospital. A very encouraging report from Dr. Charles Hendee Smith, published among the leading articles this month, on the successful use of volunteers in the out-patient department of the children's medical division of Bellevue Hospital, confirms our faith in the value and practicability of this device for economizing the time and efforts of the medical staff. We shall be glad to hear from other institutions that have tested this method of utilizing the services of lay people.

Contract has been awarded by the Alexander Sanitarium, Abilene, Tex., for the erection of a $40,000 building.

AN ARGUMENT FOR BEAUTY IN A HOSPITAL

The Effect of Color on Mental and Physical Wellbeing—A Study in Psychological Reaction

By HENRY J. DAVISON, LL.B., New York.

Dear reader, may I ask you to hold up your hand? Look at it carefully, work each finger separately, and then all together. See the marvelous coordination, the delicacy, strength, and efficiency. Look at your hand as you have never looked at it before. For lo, in your hand you have a complete picture of a modern, efficient hospital—an efficient unit, made efficient by five members. To be sure, you have thought of only four members. You have forgotten the fifth finger, and to that extent your hospital is maimed. Let us examine this figure of the hand as representing a hospital a little closer. The five fingers are: doctor (medical), superintendent (administrative), trustees (financial), patient, esthetics (psychological).

The first three fingers exist for the patient's physical welfare, the last finger for the patient's mental welfare. Opposite the word "patient" I have put no descriptive terms, for the patient is the whole thing—for him the hospital exists. If this point is denied my plea breaks down. Surely hospitals do not exist for the doctors per se—nor for the superintendent—nor for the trustees.

This article is a brief for the psychological welfare of the patient. The patient does not leave his mind at home, or put it in the wardrobe with his clothes. He takes it to bed with him, and it is with him hourly in pain, weariness, ennui, in sickness and convalescence, and, what is more, this brain is more sensitive, more impressionable, and has a greater effect upon his body, than in health. This brain is either an ally or an enemy. It is not a neutral. When the doctor treats it as neutral it stabs him in the back. Don't ignore your patient's mind, doctor, for the patient's mind won't ignore you. The physical will respond to an eased and pleased mind.

Now, while I hold a brief for art and beauty in a hospital, I know my words will fall on worse than deaf ears—even scornful ears—if there is on my part no intelligent understanding of sickness (viz., the patient) as it really is, and of the practical problems of a hospital—viz., medical, administrative and financial. For the hand is a living unit; each finger is coordinated and if not is subject to amputation.

First, sickness: "Sickness," as a medical friend said to me in discussing this very subject, "is a disagreeable thing and the fact must be faced and sickness borne philosophically; it cannot be made agreeable. Life with its occupations, routine, habits, customs, interests, family ties, and friends is exchanged for discomfort, pain, an artificial life, with a routine irksome even when understood, a routine watched over and administered by a machine nurse, efficient but disagreeable, or a nurse agreeable but inefficient—the efficient and agreeable ones do not last long, they marry." To the foregoing list of disagreeables he might have added disagreeable sounds, sights, and smells—in a word, every sense ministering discomfort to mind and body. The facts cannot be denied, but the deductions can. Because sickness is so disagreeable, the more reason for mitigating its ills. To deny this would be an indictment of the modern hospital. It would be to say virtually all that we have done in ligatures, anesthetics, sedatives, sanitation, antiseptics, ventilation, etc., is useless. Let us return to the hospital of, let us say, fifty years ago, described with photographic accuracy by Henley.

I

ENTER PATIENT

The morning mists still haunt the stony street;
The northern summer air is shrill and cold;
And lo, the Hospital, grey, quiet, old
Where Life and Death like friendly chafferers meet.
Through the loud spaciousness and draughty gloom
A small, strange child—so aged yet so young!
Precedes me gravely to the waiting room.
I limp behind, my confidence all gone;
The grey-haired soldier porter waves me on,
And on I crawl, and still my spirts fail.
A tragic meanness seems so to environ
These corridors and stairs of stone and iron,
Cold, naked, clean, half workhouse and half jail.

II

WAITING

A square, squat room (a cellar on promotion)
Drab to the soul, drab to the very daylight;
Plasters astray in unnatural-looking tinware;
Scissors and lint and apothecaries' jars.

III

INTERIOR

The gaunt brown walls
Look infinite in their decent meanness.
There is nothing of home in the noisy kettle,
The fulsome fire.

The atmosphere
Suggests the trail of a ghostly druggist.
Dressings and lint on the long, lean table—
Whom are they for?

The patients yawn
Or lie as in training for shroud and coffin.
A nurse in the corridor scolds and wrangles.
It's grim and strange.

Far footfalls clank.
The bad burn waits with his head unbandaged
My neighbor chokes in the clutch of chloral,
Oh, a gruesome world!

Every step that has been taken in making a modern hospital is right. The evolution has been a logical one. But every step has been met by barriers, opposition, and even ridicule. Hospitals have had their growing pains. What doctors, superintendent, and trustees have done is good, but why stop with four fingers? Why not perfect the hand? Now let us discuss the subject of esthetics from the standpoint of doctors, superintendent, and trustees.

Surely neither doctors, superintendents, nor trustees object to paint on a wall. What objection can there be to having the tone, texture, and quality pleasing? There are only three colors, red, yellow, and blue, but there are three million combinations. Most color put on walls is mud. It has no life, clarity, texture, or charm. Let the superintendent and trustes take heart. It costs no more to paint a wall right than wrong, nor does it cost more for maintenance. If the wall has charm, the doctor surely cannot object. To be sure the patient who has to stare at it day after day will know the difference and respond to it. If I could only paint two wards, one right and one wrong, and put the doctors, superintendent, and trustees in the wrong one for a week and again in the right one for a week, the hospital would be repainted immediately and an enthusiastic band of missionaries would march militant preaching the gospel of the art of plain painting.

The question of a bit of color in simple curtains is a little more complex. Curtains cost money. So does sanitation and modern construction from foundation to cornice. But because these are for the patient's good they are

amply provided. Objection may be made that curtains catch germs. A hospital is the most germless place in the world. If germs are around and curtains will catch them, by all means have curtains; catch 'em and drown 'em.

The sole question is whether or not patients want color and in curtains. The hospitals that have tried them will answer with a most emphatic "Yes." In discussing color of furniture the superintendent will bring up the question of dust and put in his plea for white furniture. As I write I see in my room and the one through the open door, black oak, English oak, dark mahogany, and white. On the black I can see every speck of dust, on the mahogany less dust, on the oak still less, on the white none. But as I rub my hand over the white, it is easy to see that the white is a lie and a cheat, for it said, "No dust," and there is dust aplenty. Let any doubter take a room with white trim and a black piano and see for himself the fallacy of the sanitation of white paint. French and Chinese peasants are not necessarily clean because their linen is immaculate. The whited sepulchre is older than the white paint heresy. For instance, suppose the beds in a ward were of a delicate green or pink enamel. They would be as durable as white, yet, while the color itself would be delicate, the number of beds would show strength because color intensifies in mass. Undoubtedly the room would be more cheerful, dainty, and lively, than if in white without being exciting, and yet would be equally sanitary.

If this article were intended to be constructive and to give prescriptions for making hospitals esthetically effective, much might be added to the foregoing. But this article is only a suggestive argument for the fifth finger as a necessary link in hospital evolution. Enough only has been said to show a sympathetic appreciation of the other four fingers, or rather three fingers, for more must be said about the fourth finger, the patient—the crux of the whole question.

The subject is one of mental reaction to our surroundings. We react through our senses. We react chiefly through our eyes, but the other senses are channels we cannot ignore. Thus the sense of touch. All doctors and nurses know this and hospital training has specialized on bed comfort. The sense of smell is perhaps of all the senses the most acute in its effect on the mind. There is no key that more quickly unlocks the mind than an odor and none that lights so vividly the chambers of memory. Here the hospital is and always will be handicapped. Its odors are unfortunately associated with sickness and death. What can't be cured must be endured. If, however, such odors could be overcome in the entrance and reception rooms, a great deal of good could be accomplished, for the patient would enter with cheer instead of fear gripping his heart. Nor must ears as a ministry of comfort or discomfort be overlooked. Many a patient paying large fees for doctor, room, and nurses makes just complaint of slamming doors, partially opened doors, and of unthinking persons holding conversations too easily overheard. An important observation must be made in discussing the ear, viz., that the doctors rely on this organ for their success in practice more than any other organ, for the power of suggestion, which every doctor uses consciously or unconsciously, and which is the chief stock-in-trade of the family physican, is conveyed to the patient by speech through the channel of the ear.

A word must be said about the palate. The hospital kitchen is more easily criticized than corrected. This subject is too beset with difficulties for the layman to venture criticism. More often the fault is with the patient than with the cook. Mention is made of these avenues of sense only that the eye, the most important, may stand out in bold relief.

We return to the eye. Scientists now tell us that 65 percent of all knowledge the human mind possesses comes through the eye. And the greater proportion of this eye knowledge comes through color. Leaving out the printed page (which in one sense is form) all eye knowledge comes through either form or color. If this were an article on interior decoration, form in its reaction on the human mind would constitute an important part of our discussion. But form in a hospital is limited to certain elementary and fixed lines, viz., rectangular rooms without ornament, beds in a row, and, in private rooms, simple stereotyped furniture placed against the wall. And yet, as an illustration of the reaction to the mind to form, let us take the following: Suppose someone sends a bunch of roses and marguerites. How clear and vigorous the contrast of the red and white! How wholesome and vital are they in their suggestiveness! What quiet messengers telling us to be of good cheer! But if these same flowers were woven into the form of a funeral wreath they might literally scare a sick sensitized mind to death. The main question is how do people in normal health react to color. That they do react is proved by:

1. Science. There has been invented and used for experimentation a device which consists of an attachment to go on the pulse and a dial, which records the fluctuations of the pulse, as the person is subjected to various colors, depending upon whether the color depresses or excites. The fluctuations of this dial are amazing.

2. Language. Color has become a part of the warp and woof of the English language. Thus we say "a red-letter day," "as blue as indigo," "black Monday," "a brown study," "a drab day," and "a greenhorn." These words would not have come into the language if the effect of color was not a common heritage.

3. Historical. The colors used by Marie Antoinette and Louis XVI. were no more accidental than those used by Henry VIII. or Queen Elizabeth. The tints and subtleties were characteristic of the lives and times of Louis XVI., as were the virile and direct pure colors of red, yellow, and blue indicative of the times and tastes of Henry VIII. Imagine Queen Elizabeth in a Marie Antoinette room. She would have used her very direct and voluble English, not sufficiently elegant to print here. We can easily imagine how Marie Antoinette in an Elizabethan castle would have gone out as a mouse under a vacuum. We cannot repress a smile when we think of Henry VIII. and Louis XV. or Louis XVI. consorting in the same room. By such extreme historical cases do we realize the truth of the reaction of the mind to color. But the best witness is the decorator's experiences, and, if I were to quote freely from my notebook of the effect of color upon my various clients, the entire article would not suffice. I quote a few instances. One of my clients is made violently nauseated when subjected to a certain tone of red violet. If this happens to her in health, what would it do to her in sickness? Two other clients, full-blooded men, presidents of vast corporations, cannot work with any repose of mind at home or in the office if not surrounded by blue. Both of these men are multimillionaires; neither is effeminate and both control millions, which they would not do if they were not men of power and ability. Therefore, there is nothing fantastic about this illustration. Another client had a gray room, done in panels, a room formal, modern, severe, cold, lifeless. She is naturally talkative, cheerful, and bright. But when in this room she found herself

stilted and ill at ease. She painted the wall a different color and put in bright chintzes and to her surprise became talkative, chatty, and even brilliant. All of the foregoing in reference to the eye has been along the line of esthetics, which, of course, forms the basis of this article, but a most interesting article could be written on eye strain from the physical, rather than the psychological, standpoint.

What has been said thus far may lead the reader who has never given thought to this subject to believe that I am fantastic in my reference to the effect of color on the mind. Should this be so, it is not amiss to ask the reader to consider mental reactions to other things rather than color, such for instance as cities. It may be laid down as axiomatic that if a person is not thoroughly absorbed in some dominating thought, every word spoken creates some kind of an impression or reaction on the human mind. We cannot say to a person, "Philadelphia," "New York," or "Boston" and get the same reaction. We cannot say "New York" and "Hoboken" and get the same reaction. The reaction of each place may be different upon various minds, but no two people can think of Hoboken and New York as the same. The mental picture is bound to be different. We cannot say "Annapolis" and "West Point" and get the same mental reaction. When we say "Wall Street" there is not brought to mind the picture of a church at the end of a street, but rather we think of finance, pleasantly or unpleasantly. "High finance" some people may call it, but if we have been the subjects of it we may be inclined to call it low. We might add illustration upon illustration and enlarge upon this point of view with considerable amusement as well as profit.

We react to people. There are certain people in whose presence we can be but a few moments without feeling sucked as dry as a bone. They act upon us like vampires. Then there are people with whom we come in contact for only a moment who impress us with a sense of vitality and kindness. Our prejudices, our likes and dislikes, our friendships are often based on nothing tangible. It is not what the people say, and oftentimes not what they do, but what we think they are, and why we think they are a certain thing it would be almost impossible for us to analyze or state. We are merely conscious of a reaction, pleasant or unpleasant, a reaction which has come to us through our senses, and probably through the eye.

If the whole question of reaction were to be summed up, might we not with some degree of scientific accuracy say that life itself was reaction? Certainly reaction is the only evidence of life. Stick a pin into a dead man and he does not react. Stick a pin into a live man and he does.

What has just been said may seem sententious. But the commonplace is often overlooked, or at least the logical deductions from it are not drawn.

Once again, if reaction is the chief phenomenon and evidence of life, then how are we going to ignore color, which forms the greater part of the 65 percent of knowledge which comes through the eye to the human mind? How can a hospital afford to ignore personality, viz., the likes and dislikes of its patients? Do you wish your patient to act favorably or unfavorably? Which will effect the quickest and best cure? Which will give your hospital the best record? Which will make your hospital friends and possible donors? And has the patient nothing to say about beauty? Has he no right to demand that his tastes and esthetic appetites shall be satisfied? The doctors in the hospitals are the second largest hotel-keepers in the world. The movement of patients going to hospitals when they are sick or expect to be sick is growing by leaps and bounds. Do you realize that millions are spent annually by patients in the United States in hospitals?

Thus I finish my plea. Constructively I have little to say. Each hospital has its own decorative problems. One hint of a decorative scheme might not be amiss. I see a ward with walls of very warm dove gray; a row of enameled beds of apple-blossom pink; a runner of pink carpet down the center of the room (if carpet is not allowed, then pink rubber); in the center of the room an aquarium with goldfish; a few potted plants in one or several windows, or in one window a small greenhouse built outside; some dimity or swiss curtains, and if possible a grate fire with polished brass andirons. In this picture we have charm and a suggestion of Spring, and new life, color not exciting to the patient's mind, and within reach of the hospital purse, as well as being sanitary.

A few public hospitals have carried out all and more than all that has been argued for in this article. Private hospitals without number have spared no expense in providing pleasing environment. I am waxing bolder as I finish this article with two suggestions:

First, spend some money on your approach, decorating and furnishing your vestibule, rotunda, hall, reception room, and office. Let these public rooms suggest human beings, not cases. Let their spirit be that propounded by Virchow, "In treating the patient do not forget the man." Let the man who enters the front door, be he patient or friend of patient, sniff life and hope. Let the first impression be good. Let him get the impression of gladness. Too many hospitals suggest Dante's words, "Abandon hope all ye who enter here."

Second, I now recommend something too advanced for the present. But he is safe who prophesies its coming, viz., a private room decorated on purpose for its occupant, his or her color on the wall, a few pieces of the favorite furniture, and a few cherished pictures from home, so that as the patient revives from an operation, or returns to consciousness from a long delirium and wavers between life and death, he shall be summoned by gentle messengers of memory back to life, and give heed to their loving beckoning. The doctor has no tonic like this. Here is an alembic of life, a magic wand. Let this not be thought fanciful. Would any man who loves his wife, or mother who loves her son, stop at such an expense if he could afford it? Nurses and the best doctors he pays gladly, why not a few weeks' extra room rent, and even a premium to boot, if by so doing he can perchance tip the hesitating scale of life?

Doctors, superintendent, trustees, earnest and self-sacrificing men that you are, how about that fifth finger? Please don't forget it. For I am the voice of tens of thousands who long for what I have asked.

At its second annual convention, held at Ft. Smith, Ark., in March, the Union Hospital Association, of Arkansas and Oklahoma, amended its constitution to make eligible for membership every member of organized labor within the association's jurisdiction. Officers for the ensuing year were elected as follows: president, James Tangye, Hartford, Ark., vice-president, G. E. Mikles, Jenny Lind, Ark., secretary-treasurer, Mike Chapman, Dewar, Okla. Authority to employ a chief surgeon at an annual salary of $12,000 was delegated to the executive board. The association contemplates the erection of a $250,000 hosiptal in Ft. Smith, Muskogee, or McAlester in the near future. Its members pay an initiation fee of $5.00 and monthly dues ranging from 50 cents to $1.00, which entitles them to medical and hospital services when needed.

ISOLATION WARD PLANS FOR NEWPORT NAVAL HOSPITAL*

Modification of Isolation Ward of Providence City Hospital to Meet Naval Hospital Needs

By R. K. JOSLIN, Assistant Surgeon, United States Naval Reserve Force.

The proper control, isolation, and nursing of patients having a communicable disease is of the greatest importance, especially at the present time, to the medical men of the navy. With both barracks and camps filled with men from all parts of the United States, carriers, as well as mild and missed cases, are prone to be found among them. It is therefore desirable to have buildings in which these cases can be properly cared for, as well as isolation wards to control those cases having doubtful or undetermined diagnosis. In the past twenty-five years much has been learned to increase our knowledge of the mode of transmission in contagious diseases. To quote D. L. Richardson, M. D., superintendent of the Providence City Hospital:

"The problem of controlling infection resolves itself, then, into measures for preventing the transference of secretion or excretion from the sick to the well, either by direct or indirect contact. Lord Lister taught surgeons that clean operative wounds were possible by employing 'antisepsis.' The asepsis of today is Lister's 'antisepsis,' without the antiseptic spray to sterilize the air. Asepsis will do for the medical care of patients suffering from infectious disease what it has done for surgery."

To enable both the medical and nursing personnel to properly carry out the simple technic required in aseptic fever nursing, wards having special features and equipment are necessary, since the older type of contagious hospitals is inadequate and unfitted for its proper control.

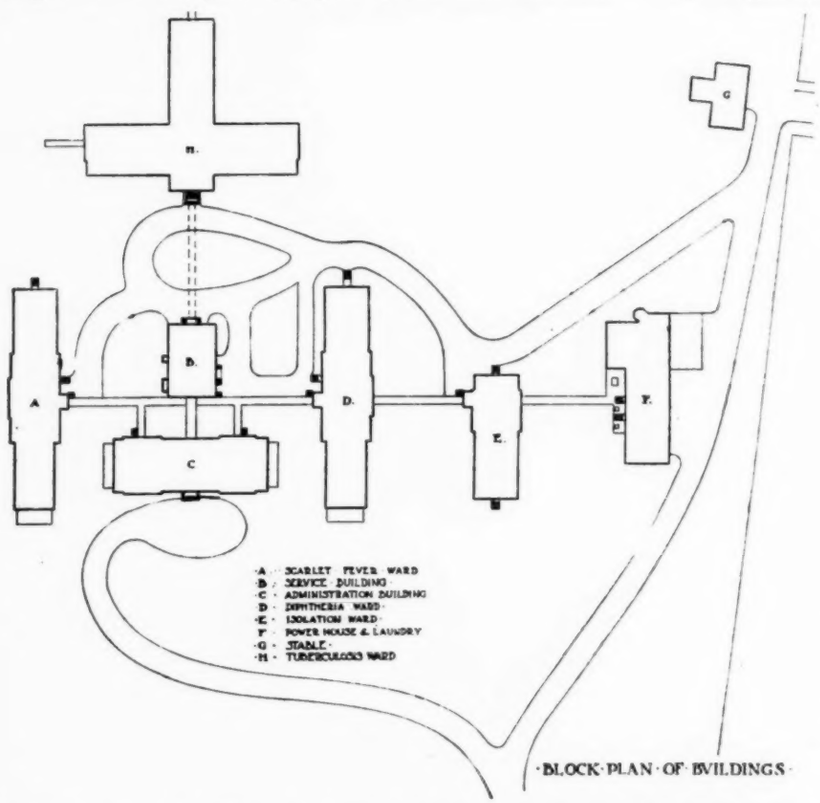

Fig. 1. Block plan of buildings, Providence City Hospital. Reproduced from the *United States Naval Medical Bulletin*, January, 1918.

In 1888, Grancher, of Paris, began the work which paved the way to the building of the Pasteur Hospital, holding 120 patients housed in two two-story buildings, and completed in 1900. At a later date English physicians adopted aseptic technic, and similar hospitals were constructed for contagious diseases. Ten years later, Dr. Charles V. Chapin, superintendent of health, city of Providence, R. I., who had visited the hospitals of both France and England, was able to have the Providence Hospital constructed upon plans modified to provide for the most modern medical asepsis.

The Providence City Hospital consists of a group of buildings having a scarlet-fever ward, diphtheria ward, isolation ward, tuberculosis ward, administration building, service buildings, power house and laundry, and an ambulance station, as shown in Figure 1.

The diphtheria and scarlet-fever wards are similar, both buildings being two stories high, the first and second floors planned alike. By adopting both the "barrier" and unit system, 100 patients can be accommodated in these two buildings (Fig. 2).

The isolation word, first floor, has eleven separate units. One- to three-bed units are located on the second floor, making a total capacity of twenty-four beds in this building. This ward is of special interest to us, as it is constructed on a unit or cubical plan and can be used to house all contagious cases. Similar temporary wards can be easily erected along these lines as an addition to the regular naval hospitals (Fig. 3).

A group of buildings has been planned, modified from the isolation ward of the Providence City Hospital, consisting of an administration building and two wards holding seventy-six beds, with room for three additional wards, which would extend the hospital capacity to 188 beds. The size of the buildings and number of wards was planned to suit conditions at the Newport Naval Hospital. The situation, number, and size of buildings would in each case depend on the available land and the number of patients to be accommodated. Buildings are proposed, with space to add three more wards, if necessary, one administration building being sufficient for a group of five wards, all buildings one story high to be heated and lighted by a central power and heating plant from the main hospital. Food prepared in the main hospital kitchen is brought in food carts to the diet kitchen, from which it is served to each ward.

The administration building, 81 by 30 feet, has a central corridor, on one side of which is an office room for nurses with a separate lavatory and shower bath, which would be available for the female nurses in charge of the ward, and also a dispensary, which is large enough to serve both the purpose of a pharmacy and laboratory combined, where specimens could be examined without bringing them to the main hospital. The examining room and usual store and linen rooms are also located in this building, one storeroom being used for the storage of patients' clothing. The examining room, 12 feet 4 inches by 11 feet, is equipped

*Courtesy of the United States Naval Medical Bulletin.

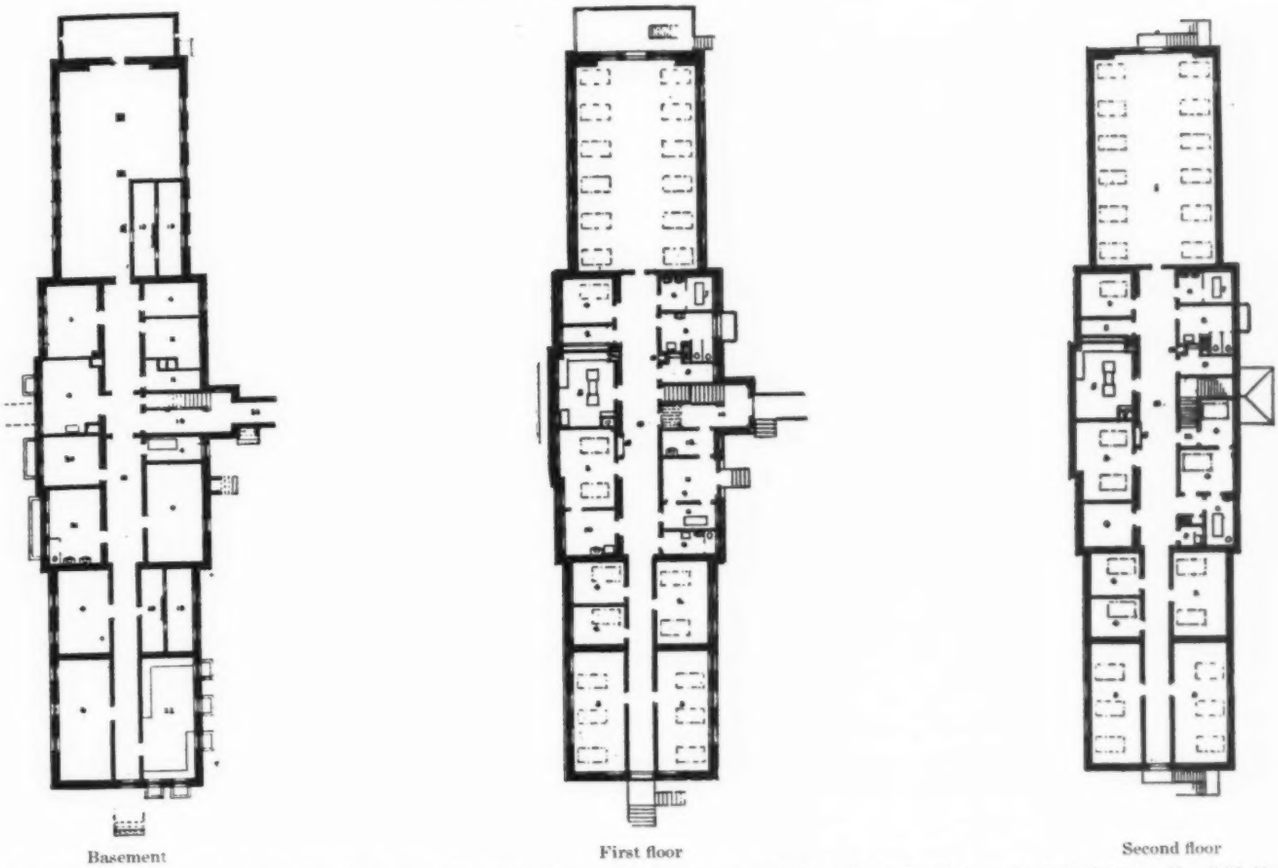

Fig. 2. Diphtheria ward of the Providence City Hospital. The scarlet fever ward is similar. Reproduced from the *United States Naval Medical Bulletin*, January, 1918.

1. Twelve-bed ward.
2. Two-bed ward.
3. Three-bed ward.
4. Room.
5. Diet kitchen.
6. Lavatory.
7. Bath.
8. Linen closet.
9. Closet.
10. Operating room.
11. Examining room.
12. Robing room.
13. Corridor.
14. Stair hall.
15. Medicine closet.
16. Dryer.
17. Dumb waiter.
18. Chute.
19. Heating chamber.
20. Patients' clothes room.
21. Nurses' clothes room.
22. Laboratory.
23. Tunnel.

Fig. 3. Projected isolation ward at Newport Naval Hospital; plan modified from foregoing. Reproduced from the *United States Naval Medical Bulletin*, January, 1918.

2. Two-bed ward.
3. Three-bed ward.
4. Room.
5. Diet kitchen.
6. Lavatory.
7. Bath.
8. Linen closet.
9. Closet.
10. Operating room.
11. Examination room.
12. Robing room.
13. Corridor.
14. Stair-hall.
15. Medicine closet.
16. Dryer.
17. Dumb waiter.
18. Chute.
19. Heating chamber.
20. Patients' clothes room.
21. Nurses' clothes room.
22. Laboratory.
23. Tunnel.

with metal table, one small bedside table for stethoscope, head mirror, throat sticks, etc., several metal chairs, small metal wall cabinet, and a lavatory operated by foot-levers, with soap and nail-brush containers for the proper washing of the hands after the examination of each patient. Two large ground-glass windows give the best available light, a matter of the greatest importance in this room. Next to the examining room are two locker rooms, equipped with metal lockers for the ward and service uniforms of the hospital corpsmen on duty; the other locker room, with the same equipment, is for the street and ward uniforms of the female nurses. Each room is equipped with the usual foot-lever lavatory, as in each of the ward units. Gowns for the medical officers may be kept in one of the locker rooms. The only areas of infection in this building are the examining room, where the patients are first taken, and the locker room, where the doctors' and nurses' clothes are kept. Patients' clothes are sterilized before being put into the bag or storeroom. A lavatory operated by foot-levers, and toilets, available for the doctors, is located at the end of the hall near the doctor's locker room.

The administration building is connected to the first ward by corridors, glazed on either side. Opening into this corridor are both steps and an incline. Similar corridors connect each ward, making a continuous passage from the administration building to the last ward of the group of buildings.

The ward is divided by a central corridor, on either side of which are located twelve separate units, or isolation rooms, large enough for two beds each if necessary, a room for the hospital apprentice in charge, a diet kitchen, minor surgical operating room, and a toilet.

At each end of the corridor is a small ward or solarium, having a capacity of six beds each, for convalescent patients. The other buildings of the group are duplicates, except that the minor surgical room is a two-bed unit, only one surgical room being necessary for the ward group. The minor surgical room is available for all surgical treatment that may be indicated by complications in contagious diseases, and here also major operations may be performed. This room, 11 feet 4 inches by 12 feet, is equipped with a lavatory operated by foot-levers, instrument case, operating table, small sterilizer for instruments and basins, and a small instrument table. The windows, extending to the ceiling, are glazed with ground glass, affording the best of light. There is also a window of ground glass on the corridor side. The diet kitchen, 11 feet 4 inches by 12 feet, is equipped with a small refrigerator, dresser, sink, and tray sterilizer. The hospital corps room, for the apprentice on duty, is equipped with a desk, chair, a rack for chart boards, and a lavatory operated by foot-levers. At one corner of this room is a window on the corridor side, outside of which a mirror is placed to enable the apprentice in charge to look up and down the corridor to prevent those patients convalescing in the separate units from visiting each other. The toilet room in each ward is equipped with a shower bath and drying floor, toilets, slop sink operated by foot-levers, sterilizer for utensils, bedpan racks, and a foot-lever lavatory. A door leads out of this room to a roofed-over iron platform, where mops and brooms are kept, rubber sheets may be dried, etc. Each ward unit, 11 feet 4 inches by 12 feet, is equipped with two beds, two small metal bedside tables, lavatory with foot-lever control, soap and nail-brush container, glass shelf, toilet-paper rack, two hooks for gowns, towel rack, and metal basket for soiled towels. The beds have wheel casters, so that they can be easily rolled out to the solarium at the end of the ward. A window is located in the corridor wall to enable the nurse to look into each separate unit without entering. The lighting system for each unit is controlled from the corridor side instead of within the room, a switch being placed outside of each door. The solariums at each end of the ward are equipped with six beds, bedside tables, shelves, hooks, and a lavatory as in each unit. Convalescents here are controlled by the "barrier" system.

In the contagious hospital as planned above, modified from the isolation ward of the Providence City Hospital, patients with all forms of contagion can be properly isolated and the amount of mixed infection reduced to the minimum without having large separate wards for each separate type of case. This saves expense and reduces the size of personnel needed for the care of a large number of cases, and affords the best method for obtaining modern aseptic technic.

A TRAINING SCHOOL FOR NURSERY MAIDS

Successful Course Given by Michael Reese Hospital—School for Maids Entirely Distinct from Nurses' Training School.

Michael Reese Hospital has made a distinct success of its training school for nursery maids, and those who stand for the highest standards and ideals in the nursing profession need have no fear that this school, which is under the supervision of the superintendent of nurses, tends in any way to confusion of nursing standards.

The circular of information given to applicants begins with this definite statement: "This course is in no way connected with the 'Training School for Nurses.' Its graduates are not competent to care for any but well children." The nursery maids understand thoroughly that they are maids in service: they have their own separate living quarters and dining room, and it is said at the hospital that, so far, there have been no unpleasant experiences at all of any effort on the part of the maids to overstep the established social order of things.

The course for nursery maids is one year, with one month of probation, and for entrance an eighth-grade education and a certificate of health are required. Those entering the course are required to obey the regulations of the school, and of course may be dismissed if unsatisfactory During this course the nursery maids receive $4 per month, maintenance, laundry, and medical attendance, and are taught the following: the housekeeping care of rooms and infants' and children's clothes; nursing hygiene; simple cookery; preparation of infant-feedings; serving; laundry work; care of infants and well children and the primary technic of kindergarten work and child play and entertainment; the care of the ordinary emergencies of childhood. Nursery maids who complete the course in a manner satisfactory to the hospital are given a certificate, and as there is such a demand for this class of trained help, are sent out almost immediately to positions paying from $10 to $15 per week.

Although the young woman who goes out from this service cannot in any sense be called a nurse, she certainly does fill a long-felt want, and any woman of sufficient means to pay for this service would surely prefer to have her children in the care of someone who has been trained in the way these maids are trained in the hospital, rather than in the haphazard care of the average nursery maid. If hospitals, wherever possible, would give courses of this kind much could be done toward the better understanding of the care and protection of infants and children.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH,
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The Lives and Health of Mothers and Children—How Can We Save Them*

By EDWARD P. DAVIS, A.M., M.D., F.A.C.S., Professor of Obstetrics, Jefferson Medical College, Philadelphia.

In this day of advanced medical science, is there a crying need for great improvement in the care of parturient women and the care of mothers and infants?

The mortality statistics tell us that in the United States from 1901 to 1905 the annual average of deaths from the accidents of pregnancy was 549; from puerperal hemorrhage, 337; from other accidents of labor, 295; from puerperal septicemia, 2,057; puerperal convulsions, 911; puerperal phlegmasia alba dolens, 4; from other puerperal accidents, 488; puerperal disease of the breast, 1; a total of 4,642 deaths occurring among mothers annually from diseases and accidents connected with pregnancy and labor. This does not include stillbirths or conditions which pertain to stillbirths only. When we compare this number of deaths with those occurring in women from cancer of the breast and cancer of the uterus, we find that the number of deaths from pregnancy and labor very nearly equals that of cancer of the breast and cancer of the uterus. Among infants an annual average of death rate of 26,511 from malformations and diseases of early infancy is cited. A recent report from the Children's Bureau of the United States Department of Labor by Dr. Grace L. Meigs states that in 1913 at least 15,000 women died in this country from diseases caused by childbirth, of whom 7,000 died from puerperal septic infection and the remaining 8,000 from diseases now known to be largely preventable or curable. Taking the statistics for 100,000 population, childbirth was a little less fatal than typhoid fever, and, if the statistics of typhoid fever were limited to women only, childbirth would be four times as fatal. Tuberculosis only shows a higher death rate among women between the ages of 15 to 44 years. Furthermore, while in the last thirteen years there has been a marked diminution in the mortality of typhoid fever, diphtheria, and tuberculosis, no such decrease is shown in the mortality attending childbirth.

When the conditions pertaining in this country are compared with those in foreign countries, we occupy an unenviable position. Of fifteen important foreign nations, only two show a higher death rate attending childbirth than does the United States. Sweden, Norway, and Italy have remarkably low death rates, while there has been a marked diminution in the last thirteen years in the death rates in England and Wales, Ireland, Japan, New Zealand, and Switzerland.

One can possibly obtain a better idea of the conditions prevailing throughout our country by reference to reports upon rural obstetrics from three townships selected: one in a North Central state, one in the Middle West, and one in the South. In the first, 50 women were interviewed, of whom 48 had a physician at their last confinement; one was attended by a neighbor, and one by a midwife. Only 7 of the 50 mothers had had any attention by a physician before the birth of the child, and of these 7 cases, one visit was paid in each case. Only 3 of the 50 had an examination made of the urine, and in these but one examination. The pelvis was measured in but one case. There were a number of diseased conditions occurring during pregnancy which received no attention. One woman described nephritis, another had severe toxemia with headache and edema of the whole body, and this woman had had nephritis in a former pregnancy. Neither of them had had care before childbirth. In 13 out of the 50, the physician made no visit after the confinement; in 24 but one visit was made. Four of the infants were delivered by forceps and the mother of one of these died from hemorrhage a day later. The child was stillborn. No physician was called in consultation. Five of these women had more or less severe hemorrhages after labor; three had adherent placentas; one had fever on the third day; one an infected breast; another thrombosis of a vein in the thigh, from which she suffered nine weeks. None of these women had a trained nurse at confinement; 7 had practical nurses; 25 a relative or a friend; 13 a neighbor or a friend who came from outside. These conditions pertained in a prosperous state and in a township no part of which is more than six miles from a doctor, and where telephones are commonly used. The nearest hospital was about twenty miles distant.

In the township in the Middle West, one-half of it was comparatively near a progressive small city, from which a doctor could easily be obtained, but the other half was in a wilder part of the country, eight to twenty miles from a hospital. In this township, of 50 mothers, 28 had a physician, as they lived comparatively near the town. Only 9 had attention during pregnancy, and in 5 but one examination of the urine was made, while but one patient had more than one examination. Out of 28, 18 had no visit from a physician after labor, although 7 had been delivered with forceps.

In the southern township there was difficulty in getting a doctor, and in some cases the doctor did not arrive until the child had been stillborn. In one case a woman who had had children was taken in labor, and birth did not occur spontaneously, but the physician summoned could not arrive until the following morning. Labor had been delayed by an abnormal position of the child, which was finally delivered dead. The mother was seriously ill for more than a month. One pregnant patient, while working in the field, had a sudden and severe hemorrhage. In a heavy storm the husband drove with the patient nine miles to the nearest town for medical help. Of 50 mothers, 26 were white and 24 colored, and of the 50 but 10 white women were attended by physicians; the remainder had colored midwives. None of these women had trained nursing care and only one had a practical nurse.

What could be done to improve these conditions? Prof. Irving Fisher, in his report on national vitality before the National Conservation Commission, states that out of 100 cases of premature birth, 40 could be prevented; of congenital debility, 40 could be prevented; of venereal infec-

*Read before the joint meeting of the National Associations of Nurses, Philadelphia, 1917; presented here by courtesy of the *American Journal of Nursing*.

tion, 70. Diarrhea and enteritis, the most important cause of infant mortality, could be prevented in 60 out of 100 cases. Convulsions, which are such a bugbear to mothers, could be prevented in 60 percent of cases. Of all diseases of infancy, 47 percent could have been prevented. From one hundred to two hundred thousand lives might have been saved each year.

I will not weary you with statistics, but they indicate that there is ample evidence of great need in improving the conditions of childbirth in this country.

The present is a peculiarly favorable time to secure this change. The wastage of human life in Europe has been so great and the demands for active workers in this country so exceed the supply that human life has an economic value which it has never before possessed. The legal value of a human life is its wage-earning capacity, and hence a child too young to work has but a sentimental value, and one is not surprised at the irony of a court that awarded damages of thirty-nine cents to the parents of a little child killed by an accident on the ground that some sentimental compensation should be made, but, as the child was too little to work, its life had no economic value. Human life has heretofore been the cheapest of commodities. Those who remember the early conditions of railway travel know that for a long time men were obliged to go between railway cars to couple and uncouple them, and that a large number of deaths and accidents resulted. At that time there were in existence inventions which would have overcome this danger, but it was cheaper to pay for life and limb at current rates than to install these appliances in cars, and it was not until the law compelled it that the change was made.

But at present life has an economic value never before attained, and, appalled by the waste and wreckage of human life and limb, the world is turning anxiously to means for saving future generations.

We believe in democracy of knowledge as we do in a true democracy in all branches of life. For some years the medical profession—and under this term I include the profession of nursing—has conscientiously striven to spread among women practical and clear knowledge concerning cancer. A brief, clear description of the first symptoms of cancer has been widely circulated, posted in dressing rooms used by women, and such knowledge has been spread abroad in every possible legitimate manner. Many cases of cancer can be cured by immediate operation, and it is to attract the attention of women to their danger and their hope for relief that this knowledge is made public.

Knowledge concerning the toxemia of pregnancy, eclampsia, hemorrhage during pregnancy, signs and symptoms of abortion and premature birth, and the complications developing during pregnancy should be given the widest publicity, and women should be urged on the slightest indication of danger to seek reputable medical help. A plain, simple, dignified statement of the important facts of reproduction should be given to young persons, and this may well be done in schools. Popular journals should positively decline all communications upon subjects connected with childbirth which are exaggerated, sentimental, and hysterical. Propaganda actuated by trade purposes should be repressed, and nothing should be done to help the quack and the cheat. One cannot expect to do much with the population unless sound, practical knowledge is made common.

Better education for doctors and nurses is also essential. In this great improvement has been made and is still in progress. In the Jefferson Medical College of Philadelphia each student personally attends 12 cases of confinement, besides his clinical and didactic instruction before graduation. He then, before entering into private practice, spends a year in hospital work in a hospital having a maternity department. Our nurses see and study from 35 to 50 cases of confinement covering the range of obstetric complications before entering upon private practice.

The midwife is an undesirable product of foreign immigration. Until, however, hospitals become more abundant throughout all parts of the country and prenatal work connected with hospitals can reach inaccessible portions of the country, it seems impossible to abolish the midwife entirely. She is far more strictly watched than formerly and with corresponding improvement in her work.

The necessity for prenatal care has of late become more definitely recognized and has been brought to the attention of the public. Ballantyne in England has been instrumental in opening wards for pregnant women only and in establishing prenatal clinics. When one remembers that the toxemia of pregnancy is in many cases preventable, one can appreciate the value of prenatal care. How successful this is may be judged from the Bulletin of the Department of Public Health and Charities of Philadelphia, February, 1917, in which Dr. Florence Childs, medical inspector from the division of child hygiene, states that among 1,736 respective mothers visited by the city nurse during the year 1915, there was but one case only of eclampsia. To be most successful, prenatal care must receive assistance from social service workers. It is useless to tell a mother to take proper food when she does not know what it is or how to cook it and is unable to buy it. The economic conditions in each case are often most important. So, too, the police department may also cooperate in arresting abortionists, closing houses of abortion and resorts of drunkenness and vice. All those agencies which make for decent, clean, and honest living are vitally concerned in prenatal care. Women illegitimately pregnant should not be neglected in this regard, and such a woman should be shielded and kept from abortionists and the life of the child, as well as her own life, should be saved.

While the interests of the mother are first, prenatal care has an enormous bearing upon the life and health of the unborn child. Deformities are usually produced during the early months of pregnancy, and then it is that pregnant women are often sickest and more in need of attention and encouragement. As pregnancy goes on, the dangers to the mother increase in greater proportion than the dangers to the child. The child whose mother is ill nourished during pregnancy will not escape the effects of her lack of food. Children so born fall a ready prey to the infectious diseases and frequently die from pneumonia after measles or contract tuberculosis. Prenatal care may spare the infant the poisonous effects of alcohol in the mother or the blighting influence of poisons to which she may be exposed in various industries. So, too, the sanitation of shops and factories is most important for mother and child.

Obstetrical science has gone forward rapidly in recent years in the development of obstetric surgery. Contracted pelvis and deformity has lost much of its terror for doctor and patient. Hemorrhage complicating pregnancy and parturition can often be promptly and successfully controlled by surgical means. In toxemia and eclampsia the results of treatment show a decided improvement. In the prevention of puerperal septic infection there is little, if any, improvement throughout the country because so many

of those who attend confinement cases will not scrupulously practice asepsis and antisepsis.

The most important factor in the diminution of death and disease among mothers and children lies in the development and increase of hospital care for women in childbirth. When the public and the profession believe and practice the truth that women in childbirth should have the same careful attention that a patient receives who must have a surgical operation, then and then only will decided improvement occur. By this we do not mean that obstetrical patients necessarily require obstetrical operations, but the act of labor itself frequently causes wounds and injury, and such a case should receive the same thorough antiseptic and reparative care which is given to other surgical conditions. As the number of hospitals increase throughout the country, as good roads are made common, and motor ambulances multiply, cases of complicated labor will more and more be promptly taken to hospitals and will there receive adequate medical attention. The medical profession and the public must be made to believe that so important are these cases that they must receive as good care as that given to serious accidents occurring in factories, to cases of tumor developing in women requiring operation, and to cases in which hemorrhage from other causes than pregnancy and childbirth threatens life. No substantial improvement can be made in obstetric mortality and morbidity until these facts are admitted and appreciated.

This matter takes us to the very roots of our national life. Nothing can so strike at the heart of illegitimacy in pregnancy as reform in economic conditions which shall give to young men and women a living wage, good sanitation, reasonable and healthful amusements, and the rights and responsibilities of a true democracy. Early marriage should be encouraged and made possible. The time may come when a medical certificate of good health may be demanded before a marriage license is issued, and there are many arguments in favor of this course. No stronger means can be taken against vice and immorality than the encouragement of a pure and happy family life.

There is a lesson of deep significance in all this for those in this country who are favored with abundant prosperity. Luxury produces nervous degenerates, feeble offspring, and miserable health. Luxury sets false standards of life and creates unhappiness and unrest in those who do not rightly know the true value of things. Selfish and idle luxury is foreign to the genius of true democracy. The idle degenerates are soon pushed aside by the strong, the normal, the clean, and the healthy, but still their influence is not for good.

The strength of a chain is the strength of each link, and in the present world's crisis when the greatest storm of history is wrecking human life, it is our duty to see to it that our ship of state has an anchor chain of true democracy, whose links are healthy, sane, honest citizens. Such an anchor chain will hold from wreck against the tides of aggression and even internal conflict.

Under the will of Andreas M. Miller, formerly of Duluth, Minn., who died in New York City last May, the city of Duluth will receive a bequest of $600,000 for the erection and maintenance of a modern hospital. The hospital will be operated under the direction of the city council and will be free to the worthy poor, without distinction on account of sex, color, creed, or nationality, the only restriction being in the case of contagious diseases, which will be excluded.

LETTERS TO THE EDITOR

A Japanese Friend Commends The Modern Hospital

To the Editor of THE MODERN HOSPITAL:

On receipt of your letter and a copy of THE MODERN HOSPITAL I express my gratitude for your kindness of sending me the most valuable journal I ever read concerning the subject of hospitals. I have learned from you that you have not been able to elicit any response from hospital people in my country, and I feel it my duty to make it known to my friends in Japan and to ask them to study the matter so as to let the hospital people linger no longer on such impoliteness, though they do not mean it. I imagine the cause not answering you might lie in the difficulty of writing the matter asked in English. Therefore, it will be a great relief for them to let them know that they are asked to write answer either in English or in Japanese. You can easily find some Japanese students studying in Chicago in rendering Japanese into English. I wonder if you could agree with me on this point.

In the course of one or two months I shall be able to send you some pages concerning the open-door system at the Nagasaki Hospital, which I have experienced these four years.

I thank you for your information of your fruitless efforts since it is suggesting to me a piece of uncultivated land wherein I may make myself useful.

NOBORU ISHIDA,

Professor Nagasaki Medical College and Chief Alienist of the prefectural Negasaki Hospital (general).

Grand-Pere

And so when he reached my bed
The General made a stand:
"My brave young fellow," he said,
"I would shake your hand."

So I lifted my arm, the right,
With never a hand at all;
Only a stump, a sight
Fit to appal.

"Well, well. Now that's too bad!
That's sorrowful luck," he said;
"But there! You give me, lad,
The left instead."

So from under the blanket's rim
I raised and showed him the other,
A snag as ugly and grim
As its ugly brother.

He looked at each jagged wrist;
He looked but did not speak;
Then he bent down and kissed
Me on either cheek.

You wonder now I don't mind
I hadn't a hand to offer . . .
They tell me (you know I'm blind)
'Twas Grand-père Joffre.

—From "Rhymes of a Red Cross Man" by Robert W. Service.

He is happy whose circumstances suit his temper; but he is more excellent who can suit his temper to any circumstances.—Hume.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES.
Dietitian of Lakeside Hospital, Cleveland, Ohio.
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Some Difficulties With War Breads and How They Were Overcome

The report on the work done at the University of Kansas by Miss Sprague and Miss Loflin on war breads, with its very good illustrations, gives a definite idea of the comparative qualities of bread made from the various flours.

In connection with this paper, a report of some of the difficulties encountered in France from the use of "war bread" and the way these difficulties have been met is of timely interest. The abstract which follows is taken from an account printed recently in one of our scientific journals.

"Eighty-five percent flour consists of the farina, or inner white part of the kernel, plus an addition of the middlings, or thirds, with an unavoidable admixture of bran. Contrary to the popular belief that the bran was the cause of digestive troubles caused by war bread, it was found that these middlings were to blame for its unsatisfactory qualities.

"This middle portion of the grain, lying between the envelope of cellulose and the central white part of the kernel containing gluten and starch, consists mainly of the aleurone layer and the germ. The cells containing aleurone have a special function; at the moment of germination, when the germ is sprouting into a new plant, it is their duty to attack, dissolve, and transform the inner part of the kernel in order to nourish the young seedling, which is thus enabled gradually to absorb all the nourishment stored in the grain.

"This function is performed by means of ferments known as diastases. When these find their way into the flour they begin to ferment energetically as soon as moisture is added, and it is to this fermentation that the objectionable qualities in the 85 percent war bread were due. These diastases, which are definitely acid, affect the dough during the time it is set to rise. They not only make it darker, but modify the gluten, interfere with the rising, so as to produce a bread more compact and heavy, and alter both taste and odor, which are sour and acrid, with an unpleasant butyric flavor.

"Having found the element responsible for the injurious action, the next step was to find some means for suppressing the ill effects of the diastasic action. 'One of us,' says Professor Lapicque, 'working with Dr. Palazzoli, observed that under the action of the vapors of ammonia the middlings changed color, turning from gray or reddish to a lemon yellow. The same yellow was produced under any alkali whatever, and under the microscope it was seen to be definitely localized in the aleurone-holding cells; finally it was also produced in the soluble matters obtained by macerating the middlings in water. It is therefore a sign of neutralization, and experiment proved that the macerations which had undergone the change in color were no longer subject to the acid fermentation of which we have spoken. The middlings which had changed color had at the same time lost most of their injurious action upon the flour.'

"The investigators next instituted some practical experiments at one of the military bakeries.

"The alkali chosen, because of its hygienic qualities, its cheapness and ease of manufacture, was lime-water. Here the middlings were treated separately until the significant change of color was produced, then used with the white flour. The resultant bread was most successful. The bread was sweet and savory, without any sour or acrid after-taste or flavor. Another important point in its favor was its keeping quality, one of the criticisms of the untreated war bread being its tendency to become moldy in about five days, a serious matter because of the inevitable delay often caused by transportation difficulties. Moreover, the bread was lighter in color and thus more pleasing to the eye.

"No change in the practice of bread-making is entailed by the new recipe. The successive yeasts and the dough are made and worked as usual. The dough is made up with lime-water instead of with ordinary water. (The lime-water is prepared in an approved manner.) The bread thus made is better raised; its crust is firm; it has an agreeable odor; its flavor is sweet, without acidity or acridity. It leaves a pleasant after-taste. It keeps well."

Bread for War Times*

By ELIZABETH C. SPRAGUE, and ETHEL LOFLIN, Department of Home Economics, University of Kansas.

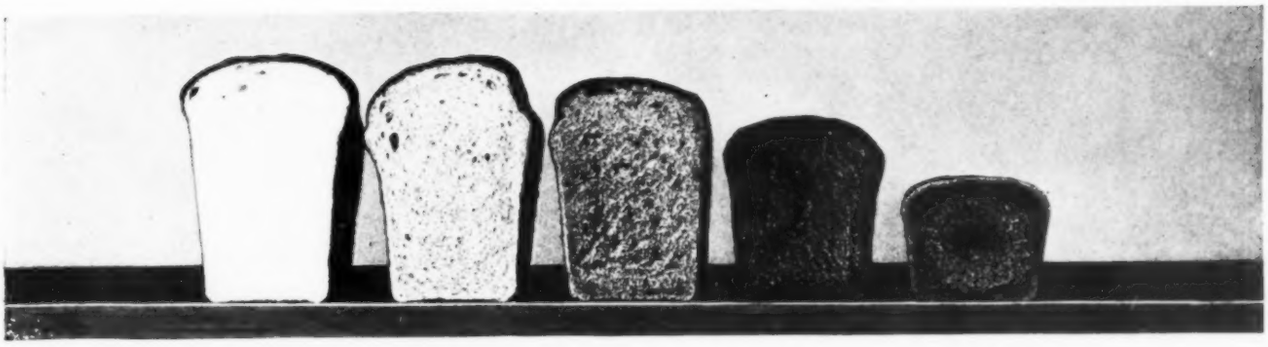
The substitution of unusual flours and meals for bread-making purposes is a well-establish practice by this time, but just how far one may go in the substitution of these products in place of the ordinary white flours and still obtain a well-risen loaf of characteristics similar to those of a wheat loaf has been a question worthy of experimentation.

Some of the grains most available for bread-making purposes are rye, corn, rice, oat, barley, and Kafir. At the time the experiments described below were performed, it was possible to buy in marketable form only rye and corn flours and cornmeal. The other grains (rice, oat, barley, and Kafir), were not on the market in flour form. Consequently, the flours used in these experiments were ground on a small spice mill, driven by a one-horse-power electric motor. Repeated grindings and siftings were necessary to reduce the whole grain to a sufficiently fine state so that the flours could be introduced into the dough just as a wheat flour would be used. It was possible to grind the rice fine enough so that the flour passed through a 40-mesh sieve; the barley and Kafir were ground to the fineness of 30-mesh and oat flour to 20-mesh. The rice flour, which was ground from polished rice, was finer than the other flours but had a hard granular feel; the oat, Kafir, and barley flours were soft and similar in feel and color to ordinary whole-wheat flour.

The purpose of the experiment, of course, was to determine how far it would be possible to use the substitute flours and still obtain a loaf comparable with the all-white flour loaf. These other flours are known to be lacking in gluten, the substance in wheat which, by virtue of its elastic, tenacious qualities, makes it possible to obtain a large-volumed loaf.

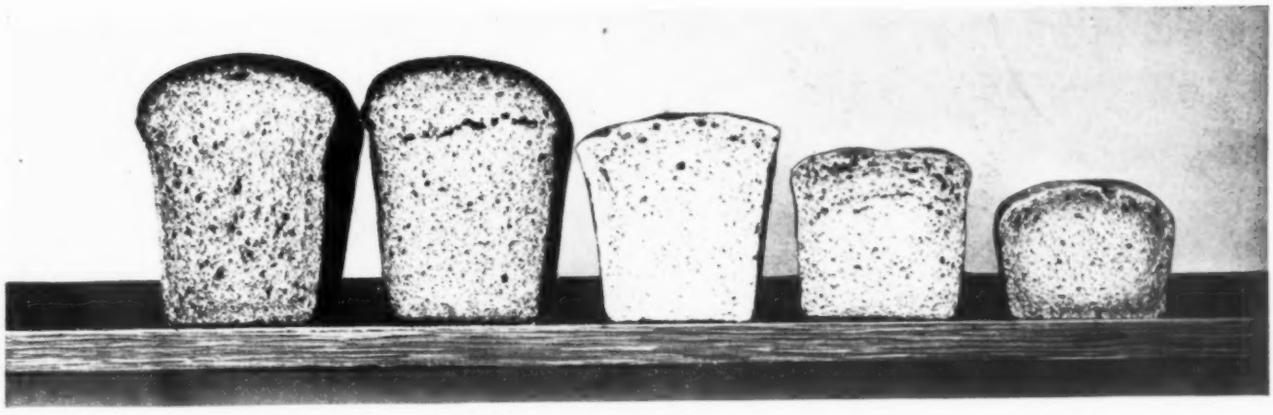
Standard proportions, such as have been successfully

*The illustrations accompanying this article are presented by courtesy of the *American Food Journal*.



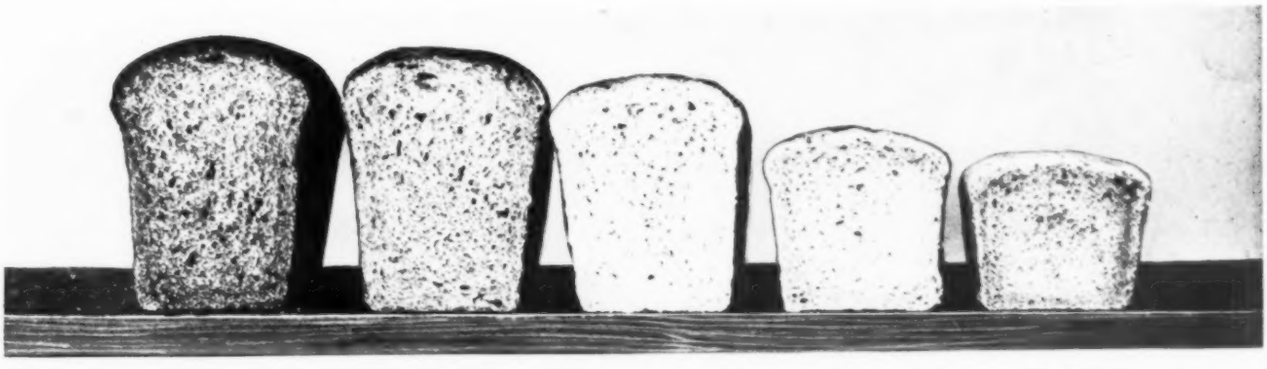
All Wheat | 25% Rye | 50% Rye | 75% Rye | 50% Rye 50% Oat

Fig. 1. Results of the substitution of various proportions of rye flour for wheat.



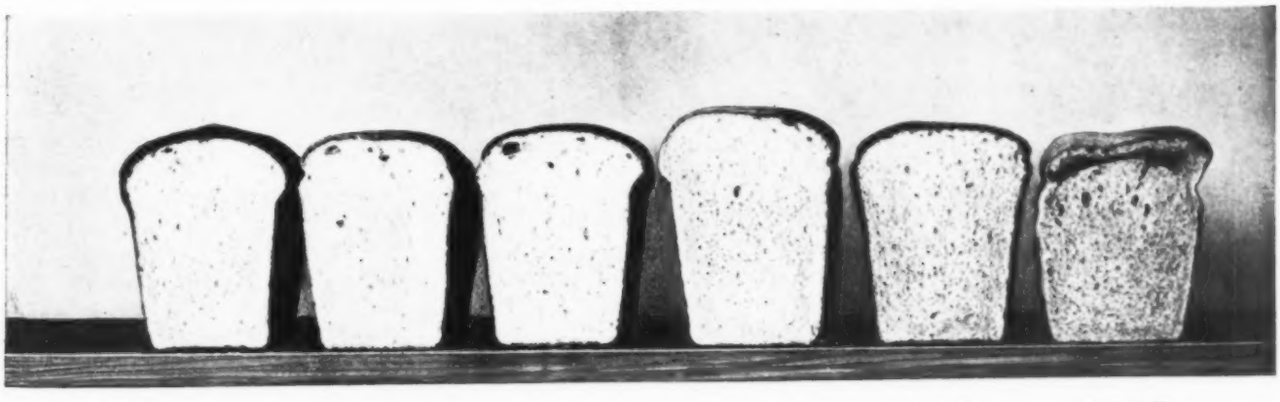
15% Oat. | 25% Oat. | 33% Oat. | 50% Oat. | 75% Oat.

Fig. 2. Oat flour substituted for wheat. Cracks are due to the fact that the bread was dry.



15% Barley. | 25% Barley. | 33⅓% Barley. | 50% Barley. | 75% Barley.

Fig. 3. Barley flour used in the same proportions as the oat. The color of the first two loaves is due to the addition of molasses.



15% Rice. | 25% Rice. | 33⅓% Rice. | 15% Kafir. | 25% Kafir. | 33⅓% Kafir

Fig. 4. Rice and Kafir flour substituted for wheat. The cavity in the last loaf is due to its having been turned over when about half done.

used in food laboratories and in home kitchens, were employed throughout. The results of the experiments were verified by the use of both the long and the short process of handling the dough, and by using both dried and compressed yeasts. The results pointed to the fact that the variations in the size of the loaves were due to amounts and kinds of other flours used and not to method of handling or kind of yeast. The breads were made under such controlled conditions as would be necessary for such an experiment; materials were accurately weighed, uniform temperatures maintained, and the manipulation of the dough was the same throughout. Substitutions by weight of these other flours in varying proportions, retaining generally part of the white wheat flour for the framework of the loaf, show the possiblities of the so-called "war flours."

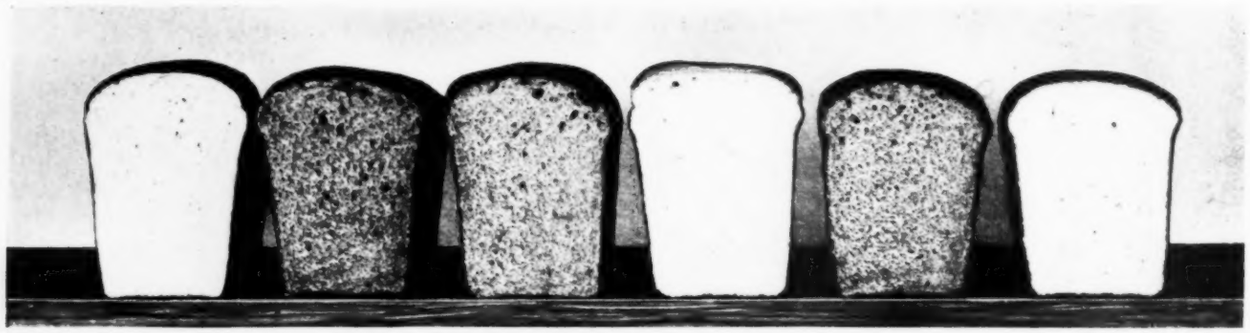
Only a word of explanation of the illustrations is necessary, as the pictures show very clearly the results of the experiments.

RYE FLOUR

Fig. 1 shows loaves of all wheat, 25 percent rye, 50 percent rye, 75 percent rye, and equal quantities of rye and oat, respectively. The substitution of 25 percent rye flour gives a loaf but little different from the ones made of all-patent flour, except for a slightly darkened color. The use of 50 percent rye darkens the loaf more still and also diminishes the volume, though not to an undesirable extent. Seventy-five percent rye makes a loaf which might be eaten with relish but is of an altogether different type from the others; it is inclined toward heaviness and decidedly dark in color. Using half-and-half of rye and oat flours does not make a suitable combination; the product is heavy and soggy and the flavor unpleasant.

OAT FLOUR

Fig. 2 shows loaves made of 15 percent, 25 percent, 33 percent, 50 percent, and 75 percent oat, respectively. When oat flour was substituted in quantities of 15 percent and 25 percent, a very satisfactory loaf was the result. These small amounts of oat flour, however, have a rather nondescript grayish color which was none too appetizing. It is thought possible to relieve this by adding dark cane molasses for sweeting in place of sugar. Larger quantities of oat flour bring the expected decrease in volume, and the loaf is quite heavy and soggy. The negative results with more than 25 percent of oat flour may have been due to the coarseness of the flour. It may be possible to overcome this in the 33 percent and 50 percent quantities, at least, by better and finer grinding.



All Wheat. 25% Oat. 25% Rye. 25% Cornflour. 25% Barley. 25% Cornmeal.

All Wheat. 25% Graham. 25% Kafir. 25% Rice.

Figs. 5 and 6. All-wheat bread compared with loaves containing 25 percent of other flours, showing, with some variations in lightness and grain, surprising uniformity in quality.

BARLEY FLOUR

Fig. 3 shows loaves of 15 percent, 25 percent, 33⅓ percent, 50 percent, and 75 percent barley, respectively. Barley flour gave a loaf very similar, in all the proportions used, to the oat flour results, except that the loaf was somewhat lighter and even one-third of this flour might be used very satisfactorily. Cane molasses was used in all the barley breads to offset the unattractive, gray color.

RICE FLOUR

The first three loaves in Fig. 4 are made of 15, 25, and 33⅓ percent rice, respectively. The illustration shows the substitution only as high as 33⅓ percent, since the coarseness of this loaf indicated that increasing amounts would be undesirable. These loaves are white and only slightly different from the wheat flour loaves in texture and appearance.

KAFIR FLOUR

The second three loaves in Fig. 4 are composed of 15, 25, and 33⅓ percent Kafir flour, respectively.

This grain can be used in quantities even as high as 33⅓ percent and still obtain a very satisfactory though slightly coarse loaf. The color is of course dark and the flavor, while different, is good and acceptable.

Corn meal and corn flour can be used in much the same ways as noted above for the other grains. The loaf made with the flour is finer than the one made with meal, but otherwise they are much the same. A pronounced corn flavor, which might or might not be desirable, was noticed in these loaves. No separate illustration is shown for corn flour.

SUMMARY

Figures 5 and 6 show the comparative differences in the loaves made by substituting 25 percent of each of the flours. The uniformity of size, appearance, and texture, in comparison with the all-wheat loaves, is very striking. This shows that without a doubt a loaf scarcely different from an all-patent flour loaf may be produced with these flours. A saving of one-fourth of the amount of wheat flour is an important one just at present. The choice of flour would necessarily depend upon the availability of the several kinds and upon personal taste, as there is a slight variation in taste and odor of the different loaves.

Concerning the relative economy of these breads, nothing of much value can be said, for, as already mentioned, most of the flours were home milled. With an increasing demand for such flours, it probably will be only a question of time until it is possible to find all these grains on the market in flour or meal form.

There is no appreciable difference in nutritive value in the different loaves, since the cereal grains all show a decidedly uniform composition. There is nothing in the nutritive value of wheat to give it precedence over these other cereals. The wheat flour does have bread-making qualities, however, superior to those of the other cereals, but by using two-thirds to three-fourths of white flour as a foundation, these other flours may be substituted and a great saving of our wheat supply effected.

Minnesota Dietitians Organize

A meeting to organize hospital dietitians of St. Paul and Minneapolis was held at City Hospital Thursday, February 7, 1918. Miss Gertrude Thomas of the University Hospital, Minneapolis, was elected chairman, Mrs. Beth B. Titus of City Hospital, Minneapolis, secretary, and Miss Mabel Benson of the Swedish Hospital, Minneapolis, treasurer. Miss M. Nickerson of the woman's committee of the National Council of Defense talked on "Food Conservation in Institutions." It was decided to admit to membership graduates of recognized courses in home economics who are actively engaged in institutional work.

The second meeting of the association was held at the University Hospital, Minneapolis. After some discussion it was decided to invite all trained dietitians engaged in hospital work in Minnesota to join the organization and to change the name to the Minnesota Dietitians' Association. It was also decided to meet the second Monday of each month, and the invitation of Miss Adeline Staubermeyer, dietitian at St. Luke's Hospital, St. Paul, to meet at her hospital March 16 was accepted. Dr. John LePac of the University Hospital then gave a paper on "The Dietetic Treatment of Diabetes" and Dr. R. O. Beard of the University talked on the need of organization among dietitians and some of the results to be expected.

Meeting of Executive Committee of American Dietetic Association

The executive committee of the American Dietetic Association met at Michael Reese Hospital, Chicago, February 21. Much business of vital importance was disposed of and the following committees were appointed: membership committee, Maude Perry, chairman; program committee, Ruth Wheeler, chairman; housing committee, Emma Smedley, chairman. The officers of this association are as follows; president, Lulu Graves, Lakeside Hospital, Cleveland; first vice-president, Lenna Cooper, Battle Creek Sanitarium, Battle Creek, Mich.; second vice-president, Violet Ryley, general organizing dietitian, military hospitals commission, Toronto, Can.; recording secretary, E. Moreland Geraghty, New Haven Hospital, New Haven, Conn.; corresponding secretary, Maude A. Perry, Michael Reese Hospital, Chicago; treasurer, Emma Smedley, director department of school luncheons, Philadelphia. These, with the following, make up the executive committee: Ruth Wheeler, head of department of nutrition, Illinois State University, Champaign, Ill.; Edna White, head dietitian of department of home economics, Ohio State University, Columbus, Ohio; and Nellie M. Wood, dietitian at M. E. Hospital, Omaha, Neb.

Analyze Your Needs

Whenever a piece of equipment or a feature of architecture is proposed for your hospital, it will be a good thing if you will trace the items of work in which it is to participate from beginning to end, in order to determine what its advantages and disadvantages are to be. For instance, let us say it is a food car that is wanted and you have one in sight; better ask yourself just what the car is for, whether to convey foods over short distances from the main kitchen to the dumbwaiter, thence to warming ovens in the service rooms upstairs, or whether it is to be used for the making up of trays in the service rooms to be distributed to the wards. In the first case it will not be necessary to have a warming device, as the foods go into the warmer at once on arrival at the service rooms, while in the second case it is highly necessary to keep the contents of the trays warm until they reach the patients' beds. The question will come up: is it desirable, in the course of transit, to care for cold foods, such as salads, jellies, ice-creas, as well as hot?

Many a piece of equipment has been bought because it was good looking and because it would do some one thing well, without very much reference as to whether it was wanted to do that one thing, or whether it was wanted to do some other things in our particular case.

In architecture we ought to associate the feature with the performance of the specific work in which it is to participate, trace every step of the work and determine whether that particular feature will lend itself to that work in the most efficient way. Success in studying our problems in just that way will very often mean the cutting down of much labor and saving much time. If one will cultivate the habit of analyzing problems in this way it will not be long until one will find himself initiating new ways of doing things and designing new mechanism to do it with.

One day a visitor at the Children's Hospital, Columbus, O., was telling the children a Bible story. When she finished she said, "Now, children, ask me some questions." A small voice from the corner bed piped up, "When is the next circus coming?"

BULLETIN OF THE AMERICAN HOSPITAL ASSOCIATION

Monthly Bulletin issued from the Executive Offices
728 Seventeenth Street, N. W., Washington, D. C.
WILLIAM H. WALSH, M. D., Secretary.

War Service—Hospital Membership—Priority of Shipment of Hospital Supplies—Twentieth Annual Convention—Retention of Interns

WAR SERVICE COMMITTEE

During the past month this committee held a meeting in Washington and through its chairman a conference with the staff of the Surgeon General of the Army. One of the subjects in which the association is deeply interested is the utilization of civil hospitals for the reconstructive work of soldiers returning from the war. The matter is now under consideration, and our committee is urging careful consideration of plans already formulated and submitted by the committee.

Since our last bulletin was published the surgeon general has called Maj. John A. Hornsby of Chicago to Washington as a member of a special committee on hospitals, and throughout the last two months he has been actively engaged in inspection tours to the various cantonment hospitals for the purpose of inspecting and reporting upon them.

The hospital division of the surgeon general's office suffered a loss in the assignment of Colonel Glennan to foreign service. He has been succeeded, however, by Col. Robert E. Noble, one of the most able and distinguished members of the regular medical corps. The staff of this division has been greatly enlarged, thus enabling the new incumbent to inaugurate many far-reaching innovations.

The committee desires to call the attention of the civil hospitals in the United States to the very great shortage of gauze and surgical dressings at the present time. The demands of the government are so great that this shortage will continue until these supplies will be obtained with great difficulty. All hospitals are urged to conserve by every possible means their supply of surgical dressings. In this connection, attention is invited to a paper entitled, "Small Leaks and How to Prevent Them," in Vol. XIV, of the *Transactions of the American Hospital Association*, 1912, p. 251. Further information regarding the methods of reclaiming gauze may be obtained from the Pennsylvania Hospital, Philadelphia, or the Massachusetts General Hospital, Boston. Both of these institutions have successfully followed this practice for a number of years and have thereby saved a great deal of money.

On February 2 a questionnaire issued from the Military and Naval Division of the Bureau of War Risk Insurance, addressed to "Every Hospital in the Country," developed the following information:

Every man in military service is entitled to compensation for death or disability resulting from injury or disease contracted in the line of duty. In addition there is the provision for war insurance, and all men in the service between April 6, 1917, and February 12, 1918, became automatically insured for a certain amount.

After a man is so disabled as to be unable to perform military duties, he is discharged from the service and then comes under the care of the Bureau of War Risk Insurance, and all questions of compensation or insurance for disability are determined by this bureau. The bureau undertakes to furnish necessary hospital care, and, in fact, the acceptance of such care is more or less obligatory on the claimant. Already there is a considerable number of cases of discharged men who require hospital treatment, and it is in order that they may be referred to proper hospitals near their homes that the data as to hospital facilities is being compiled by the War Risk Bureau. The questionnaire has nothing to do with the problem of reconstruction or rehabilitation. As proper hospital charges will, in these cases, be paid by the United States, it will be of advantage to the hospitals as well as to the communities which they serve to answer the questions of the bureau as promptly and fully as possible.

HOSPITAL MEMBERSHIP

The trustees are considering an amendment to our constitution and by-laws permitting the entrance to membership of a hospital as an institution. There are many problems to be solved in this connection, such as the representation that such an institution may have, and the method of determining it. In all likelihood this matter will be presented at the next convention for the consideration of the entire membership. Nothing in the proposed change is intended in any way to affect the status of the individual membership, which it is hoped will always continue.

PRIORITY OF SHIPMENTS OF HOSPITAL SUPPLIES

Many requests have been received by the association asking us to intercede with the government on behalf of the civil hospitals to obtain a ruling upon the matter of priority in the shipment of hospital supplies. In response to these requests, the secretary submitted the matter of priority to the Director General of Railroads, who replied that the government was exerting every effort to facilitate the rapid movement of all freight, and especial attention had been given to the expedition of those shipments which were certified as being urgently needed for the care and treatment of the sick. We were also advised that, if specific instances of delay in shipment of hospital supplies would be transmitted to the government, steps would be taken to effect a remedy. Complaints received at this office will receive prompt attention and will be duly submitted to the responsible authorities.

TWENTIETH ANNUAL CONVENTION

Arrangements are progressing for the twentieth annual convention, to be held in the Royal Palace Hotel in Atlantic City, September 24 to 28. The hotel is commodious and will probably be able to take care of all attending members who make reservations in advance. Many other desirable hotels are readily accessible, however, for the accommodation of those who cannot complete arrangements until the last minute.

This meeting will be the first in the history of the association at which the sessions will be divided into sections, each of which will arrange its own program. The following sections have either completed or are in the course of forming their organizations: out-patient work, dietetics, administration, nursing, social service, and hospital construction.

In addition to the program presented by these sections, there will be several general sessions at which subjects of

general interest will be presented and at which time also the various committee reports will be presented.

The business meetings inaugurated last year at Cleveland will be continued this year, and all the business affairs of the association will be presented and discussed at these sessions.

The commercial exhibit will be particularly interesting this year because of the efforts being made by American manufacturers to meet the demands of the country for many hospital requisites formerly manufactured only in foreign countries. Every inducement will be offered to those engaged in these infant industries to display their products at our convention, and the United States Tariff Commission will be invited to inspect the display.

Members of the association who desire the secretary of the association to write a special letter to their respcetive boards of trustees regarding the attendance of the superintendent at the convention should indicate this desire by writing to headquarters as soon as possible, giving the name and home address of the president of the board. Such letters in past years have been very effective, and many members have received permission from their boards to attend the convention annually at the expense of the hospital.

RETENTION OF INTERNS OVER ONE YEAR

The War Service Committee recommends that hospitals should notify the personnel division of the surgeon general's office, Washington, D. C., of the status of interns whom it is considered desirable to retain in hospital service for more than the year after graduation.

It is probable that the circumstance will be noted and proper consideration given before calling such men into the service, it being, of course, understood that the requirements of the service must govern action in all cases.

The American Hospital for Italian Wounded

In the spring of 1915 when Italy threw her lot with the Allies, a little group of Americans living in Florence established the American Hospital for Italian Wounded (Ospedale Territoriale No. 10 of the Italian Red Cross of Florence) as an expression of their love for Italy and their admiration for her heroic army. It opened in a small way with a few American women doing the best they could with a small amount of labor and financial support.

Since then, after the great drive on the Italian front, the hospital and its work has grown and expanded until today more than two hundred Italian soldiers and refugees are cared for, and the hospital is now supplied with a medical and surgical staff by the government, and ranks officially as a military hospital.

The hospital has been made of an old sixteenth-century palace, the Villa Modigliani, with some reconstruction to meet its present needs. The court and loggias are quaint and lovely and are ideal for the convalescent soldier patients.

In the basement, the rooms and plumbing were remodeled to care for newly admitted patients to put them in condition to be received into the hospital proper. The old Italian marble baths gave place to modern ones, equipped with hot-water plumbing, and rooms were made for disinfection and for laundering soiled linen and clothing. In the upper stories of the building, living rooms, corridors, and porches were reconstructed to make wards, operating rooms, and laboratories.

Memorial Hospital Richmond, Va., is building a $40,000 annex for contagious cases.

WAR TIME INSTITUTION ECONOMIES

Economy in the Hospital Pharmacy

By ASA S. BACON, Superintendent, and WILLIAM GRAY, Pharmacist, Presbyterian Hospital, Chicago.

The pharmacy must of necessity be of primary importance in the proper maintenance of a hospital. The pharmacy department of any hospital large enough, should have an experienced pharmacist in charge. It is good business to do so, for he will not only act as a safeguard to the patients, but he will save the hospital a great deal of money. The responsibility of handling drugs is too great to leave in the hands of an amateur pharmacist.

Most hospitals have to consider the financial side, and in doing so, the purchasing of the drugs often receive more attention than the preservation of them. There is also a temptation to purchase a cheaper and inferior article in these war times, while prices are so very high.

By cooperating with the members of the staff, interns, nurses, and pharmacist, the superintendent can keep his drug account within a reasonable limit without substituting an inferior grade. There are many ways of keeping down expenses without interfering with efficiency. For instance, pyramidon is very expensive and sometimes unobtainable. With the consent of the prescriber, we can use as a substitute phenacetin or antipyrin. If they are all too costly, solution of ammonium acetate can be used. There is a large saving if the pharmacist makes the testing solutions for the pathological laboratory, such as Haine's, Gram's, Hayem's, Benedict's quantitative sugar, Bang's, Lange's gold chloride test and many other solutions.

By at least four weeks' instruction in the drug room, the pupil nurses can be taught how to take care of deteriorating substances, and can obtain a general knowledge of the value of the various drugs. This is a very material advantage to both the hospital and the patient, first, because the patient will not be given an inferior or worthless preparation; secondly, because the nurse will know how to take the proper care of drugs in general and by so doing, conserve the interests of the hospital.

The following are a number of cases covering this point:

Do not use the following chemicals and pharmaceutical preparations except when recently prepared:

Solution of iron and ammonium acetate (Basham's mixture).
Solution of ammonium acetate (spirit of Mindererus).
Infusion of digitalis.
Solution of citrate of magnesium.
Diluted nitrohydrochloric acid.
Sulphurous acid.
Chlorine water.
Compound solution of chlorine.
Creosote water.
Solutions of potassium citrate.
Solutions of organic substances, such as morphine, strychnine, atropine, pilocarpine, eserine, cocaine, etc.

Do not expose to the light:

Phenol.
Resorcinol.
Alkaloids.

Iodides (iodipin and syrup of ferrous iodide excepted).
Calomel.
Silver salts.
Chlorine and bromine water.
Compound syrup of hypophosphites.
Sodium salicylate and other salicylates, especially in solution.
Solutions of hydrogen dioxide.
Chloroform.
Bromoform.
Amyl nitrite and other nitrites.
Benzoic acid.
Salicylic acid.
Hydriodic acid.
Hydrocyanic acid.
Santonin.
Naphthalin.
Betanophthol.
Sulphurous acid.
Ferric salts.
Mercuric salts.
Volatile oils.
Nitrohydrochloric acid.
Trichlor-acetic acid.

Do not keep in a dark place, but expose to the light:

Ferrous salts and their preparations.

Do not expose the following to the action of air, as they readily absorb carbon dioxide:

Lead acetate.
Calcium oxide.
Lime water.
Ammonium carbonate.
Lead subacetate.
Magnesium oxide.
Theobromine sodio-salicylate (diuretin).

Do not expose volatile drugs to the air, and keep them in well-stoppered containers, as otherwise they will evaporate and lose strength.

Keep spirits of niter in a cool dark place, in a well-filled bottle.

Keep in a cool place:

Syrups.
Castor oil.
Cocoanut oil.
Cod liver oil.
Mucilage.
Suppositories.

There is a great deal to be saved by manufacturing your own pharmaceutical preparations, some of which are:

Elixir of terpin hydrate.
Elixir of terpin hydrate and heroin.
Elixir of terpin hydrate and codeine.
Elixir of iron, quinine, and strychnine.
Essences of peppermint, orange, lemon, etc.
Aromatic spirits of ammonia.
Antiseptic solution.
Alkaline antiseptic solution.
Tincture of iron and other tinctures.
Sterile solutions for hypodermic and intravenous use.

Ampoules are rather expensive. While, in general, it is safer to use hypodermic tablets instead of solutions, there are examples where great difference in cost should be considered. For example, compare the cost of pilocarpine hydrochloride by the ounce with the price of hypodermic tablets of this salt.

A great deal of money can be saved from the use of alcohol for germicidal use in the operating and dressing rooms. It has been shown that a solution between 50 and 70 percent is more promptly and actively germicidal than stronger solutions. The Presbyterian Hospital has used with success for several months solutions of from 50 to 60 percent. Why use a stronger solution?

A refrigerator is a valuable adjunct to the drugroom for the preservation of both essential and fixed oils, serums, and vaccines. If large enough, it can be used for the storage of mineral waters, ginger ale, and other bottled goods.

Barrel goods, such as compound solution of cresol and oils, when possible, should be purchased in steel drums instead of wooden barrels. To keep barrels from leaking, nail a few tacks around the edge of hoops, so they will not loosen, and keep water on the head. Attention must be given to faucets.

For labels, it is much cheaper to purchase strips and cut them as used, rather than use the colored border, cut and packed in box kind.

When using corks over and over again, use the largest size that will enter the bottle. If too small a size is used, the cork is destroyed by the use of a corkscrew or knife in drawing it. Too small a cork permits evaporation, which changes the strength of the preparations.

Use round bottles in preference to any other, for they are less apt to be knocked over. Watch waste receptacles for discarded bottles. They can either be used again or sold.

As there is likely to be too much waste and deterioration of drugs that accumulate in the cabinets on the floors from over-supply, it is well to have the pharmacist inspect these cabinets at regular intervals.

It will be found economical to buy petrolatum (vaseline) by the barrel or keg instead of cans. We also suggest purchasing talcum powder by the bag instead of by the box.

During the year 1917 the Presbyterian Hospital admitted 9,763 patients; 38 percent of these were medical. The drug department has two experienced pharmacists. Pupil nurses receive at least four weeks' instruction in the drugroom. The drugroom supplies for the year cost $6,866, an average of 70 cents per patient. This included alcohol, green soap, and many other items not entirely confined to the uses in the drug department.

The American Cooked Food Service

By BELLE J. MACDONALD, M.D., Consulting Physician of the Working Staff of the American Cooked Food Service, Former Medical Inspector in the Department of Health, New York City.

This service, as worked out by a group of prominent scientists and welfare workers, has the personal endorsement of Mr. Hoover of the Federal Food Administration, and, as a war measure, is of practical help in solving the war food question.

It is the purpose of this organization to (1) deliver cooked meals to homes; (2) provide special dietetic service; (3) train and furnish maid service by the hour; (4) furnish other practical and educational features to aid health, and household economy and efficiency.

General Plan—To provide adequate and balanced meals during the stress of high prices and possible food shortage is a problem confronting every household. Much is being done to increase food supply and its distribution, and to educate housewives in the planning and preparation of meals. Measures are organizing to enlarge the service of soup kitchens and other philanthropic agencies; but no practical movement has appeared to prevent underfeeding or ease household problems in the great mass of independent homes.

Successful Precedents—The delivery of cooked meals (menus entire or in part) is not new. It has been done on a large scale in London, is being extended there at the present time, and has been in successful operation in a comparatively small way in this country for a series of years each in Ohio, Illinois, Missouri, Point Loma, Cal., and at the present time in New Jersey. But the plan, so far as known to the committee, has never in this country

been tried on a scale to be of service to a large community, or with the correlated features of a choice in scale of prices, special dietary or health service, and maid service by the hour.

Homes to Be Reached—The independent, middle-class homes, sustained on from $1000 to $5000 and upward per year, would be reached by this service. It would not touch the two economic extremes—the people fed from soup kitchens and philanthropies, or those who can always command an army of servants.

Between those two extremes are the great mass of clerical, business and professional people who will feel keenly the need for household economics, practical assistance in changing dietary standards, and the decreased supply of domestic help. From this class will largely come the enormous additional army of women to be drafted into industrial service for the present emergency—women who are now wholly or in part carrying the work or direction of their homes.

For a large number of these people the delivery of one, two, or three cooked meals a day—probably in the majority of cases the dinner only—would solve the problem of keeping the home and family together.

Permanent Benefits—While this movement assumes an emergency importance at the present time, its need has been recognized for many years to meet the constantly decreasing supply of household servants and the increasing number of families whose earning capacity has to be augmented by the work of women members outside the home.

Even where these conditions do not prevail, the nutrition standard of a vast proportion of our population is below the level of health efficiency. The delicatessen store, from which thousands of families get most of their food, is largely responsible for the poor state of nutrition found in the children in the public schools. Even in neighborhoods where plenty of money is spent for food, the unwise choice of food or its imperfect cooking lead to malnutrition. Thousands of housewives, either through ignorance or unwillingness to spend the time and trouble necessary, or reluctance to use sufficient gas or other fuel for cooking, serve even the most simple dishes in so badly cooked a state that they will not assimilate in the body.

On the Dunfermline nutrition scale, which ranks a wholesome well-nourished child as 1, a child just short of this standard as 2, and cases of marked malnutrition as 3 and 4, the New York Board of Health has found only 31 percent of the 750,000 children in New York schools ranking as 1 (wholesome), 53 percent or 87,823 as 2, and 25,967 or 16 percent as 3 and 4. The conditions shown by these astounding figures account for much illness, backwardness in the schools, and lack of vigor and efficiency in later industrial life; they are probably the basis of a larger amount of susceptibility to illness in both childhood and adult life than any other one cause.

Where the mother of a home is also a wage-earner, these conditions are cruelly enhanced, and we are facing a situation in which these instances are to multiply rapidly.

Economy—It has been found that the method of supplying cooked meals is an economy to the individual family through wholesale buying and through saving of fuel, waste, upkeep of individual kitchen, cook, and maid service. Menus on a graded scale of prices would also admit of possible economies.

The saving of waste is one of the most economical features of a distributing kitchen. For example, in London it was found some years ago that for each thousand persons served in a year, enough grease was saved in the kitchen to sell for $5000.

Rural Service—Armies of laborers are being mobilized for the farms, but no special provision appears for feeding them. Farmers' wives cannot now secure adequate household help, and would probably welcome a cooked meal service. To deliver this would be practicable for farms within an hour's motoring distance of selected centers.

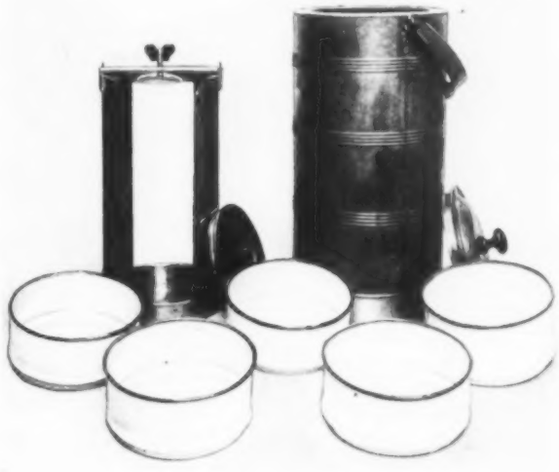
Such a movement should lead to permanent improvement of the nutrition of country dwellers, where recent health surveys show the standards of health and nutrition to be much below those of city dwellers.

Practical Details—The thermos and fireless cooker principles in containers make it possible to keep food steaming hot for hours. Such containers are in successful use. The packing and delivery by motor service are surprisingly rapid and inexpensive. In London it was found that cooking, packing, and delivery for one thousand persons could be done for the cost of maintaining separate kitchens for twenty modest homes.

These considerations have led to the organization of the American Cooked Food Service in New York City. On the consulting board, both as to nutritional experts and altruists, are the following-named prominent people: Mesdames Herbert L. Satterlee, Egerton L. Winthrop, Ransom S. Hooker. Drs. Henry Dwight Chapin, S. Adolphus Knopf, S. Josephine Baker, Thomas D. Wood, Charles A. E. Winslow, Graham Lusk, G. Reese Satterlee, Belle J. Macdonald, Prof. Irving Fisher, Mr. Cyrus C. Miller, Mr. Frederic S. Crum, Mr. Adolph Lewisohn, Miss Jessie H. Bancroft, and Mrs. William G. Shailer.

The cooking and distribution is in and from centers scattered through the city and serving prescribed districts, the limiting basis for most of these being the number of persons for which a home type of cooking could be done. This would be suited to the racial and other needs of different localities.

Containers—The cooked food is packed in containers that keep it steaming hot, ready to serve, and delicious in flavor for several hours. Each course for a family is in a separate bowl-like inset of alumnium. These insets are stacked in the order of the courses (soup at the top and dessert at the bottom), clamped together and packed in a cylindrical shell, thoroughly insulated. A separate container will hold salads and other cold dishes.



Container of general type to be used in New York service.

Delivery—Each regular patron family will have its own registered container delivered by motor service shortly before meal time and called for at regular times thereafter.

Health Service—Trained dietitions will insure *balanced meals* as to chemical essentials (proteids, carbohydrates, fats, mineral salts, etc.), and thus prevent underfeeding in times of food shortage.

Special dietary will also be furnished as desired.

Cost—Two grades (or more) of service as to cost will be available, one at the lowest price that can be furnished, the other more elaborate and expensive. *Both will observe strictly all war regulations.*

The lowest priced service will approximate the cost of the raw food stuffs to the retail buyer, the advantage of wholesale buying nearly offsetting the cost of the central service and motor delivery. Economies for the consumer will lie in lessened domestic service, and in fuel and upkeep of the individual kitchen.

The more elaborate and expensive service will be lower than most restaurant and hotel charges.

LOWEST-PRICE DINNERS (35 CENTS)

Typical Sunday dinner menu:

Consomme
Chicken fricassee or Pot roast
Mashed potatoes
Onions or Carrots
Rolls Nut butter
Prune whip or Buckwheat apple shortcake

Typical meatless Tuesday menu:

Vegetable soup
Boiled fish or Bean loaf
Potatoes or Rice
Rye rolls Nut butter
Escalloped tomatoes or Cabbage salad
Indian pudding or Raisin pie

Typical wheatless Wednesday menu:

Barley soup
Irish stew or Breast of mutton
Potatoes
Cabbage or Spinach
Rye and corn bread Nut butter
Stewed apricots or Tapioca pudding

Typical menus:

Fish chowder
Meat pie or Baked beans
Baked potatoes
Boston brown bread or Rolls Nut butter
Carrots or Onions
Small cakes or Lemon jelly

Cream of pea soup
Baked fish or Turkish pilaf
Potatoes
Salsify or Parsnips
Corn bread Nut butter
Dutch apple pie or Norwegian pudding

LOWEST-PRICE LUNCHEON (25 CENTS)

Typical luncheons:

Barley soup
Vegetable pie Brown gravy
Hoover rolls Nut butter
Rice pudding
Tea or Chocolate

Chicken bouillon
Banana and grapenut salad
Cornbread sticks Nut butter
Orange jelly
Tea or Chocolate

Tuna fish salad or Chicken croquettes
American bread Nut butter
Lemon pie
Tea or Chocolate

MEDIUM-PRICE DINNERS (50 CENTS)

Typical Sunday dinner menu:

Consomme or Oyster cocktail
Roast turkey or Roast beef (rib)
Cranberry sauce
Mashed potatoes
Carrots or Onions
American rolls Butter
Lettuce salad
Coffee sponge or Apple pie

Typical meatless Tuesday menu:

Vegetable soup
Boiled fish or Chicken fricassee
Potatoes or rice
Escalloped tomatoes or Carrots
Rolls Butter
Celery salad
Fig pudding or Caramel custard

Typical wheatless Wednesday menu:

Barley soup
Beefsteak or Escalloped Oysters
Potatoes
Cabbage or Spinach
Rye and corn bread Butter
Waldorf salad
Orange jelly or Mince pie

Typical menus:

Clear tomato soup or Vegetable soup
Roast pork or Rabbit a la Southern
Samp or Sweet potatoes
Turnips or Onions
Graham rolls Butter
Lettuce salad
Chocolate blanc mange or Apple sauce cake

Creole soup
Roast beef or Baked beans
Baked potatoes
Boston brown bread or Rolls Butter
Carrots or Creamed celery
Lettuce salad
Apricot tarts or Loganberry jelly

SPECIAL $1 DINNER

Roast chicken
Riced potatoes
String beans Rolls Butter
Romaine salad Cheese balls
Ice cream Cake
Coffee

Onion soup au gratin or Vegetable soup
Roast beef, sliced
Brown potatoes
Stewed corn
Hearts of lettuce salad
Rolls Butter
Delicious apple pie
Coffee

Clam broth
Beefsteak Mushroom sauce
Broiled parsnips
Rolls Butter
Olives
Tomato and lettuce salad
Spanish cream in cups
Coffee

The world is old and thou are young,
The world is large and thou art small,
Cease, atom of a moment's space,
To think thyself an all in all.

—From the Kasidah, translated by Sir Richard Burton.

A $45,000 addition is being erected for the Georgia Baptist Hospital at Atlanta.

THE WAR: ITS HOSPITAL, MEDICAL AND NURSING ASPECTS

CANADIAN MILITARY CONVALESCENT HOSPITALS*

Some Features of Special Interest—Accommodations Increased Nearly Six Times Since January, 1917

Construction, a Canadian architectural journal published in Toronto, devotes a very interesting number to Canadian military hospitals. Our neighbors across the border have been engaged so much longer than we have in the work of providing for wounded soldiers that their experience has great value for the United States. We believe it worth while, therefore, to give our readers a brief review of this excellent number.

Fig. 1. Typical ward in Drummond Convalescent Hospital, Montreal, Quebec. This space, which now forms a room 160 feet long, was formerly occupied by fourteen separate rooms and the connecting corridor. The floors were strengthened with additional steel beams and columns, and this is typical of the work necessitated by the remodeling of existing buildings for hospital purposes.

The leading articles discuss "Canada's Military Convalescent Hospitals," "The Kitchen and Dining-Room Problems," "Converting Immigration Sheds Into Hospitals," "Care of Soldiers Suffering from Tuberculosis," and "System of Hospital Construction."

MILITARY CONVALESCENT HOSPITALS

On January 1, 1917, we are told, the Military Hospitals Commission of Canada was caring for 2,400 returned wounded soldiers. On August 7, 1917, according to *Construction*, the number had increased to over 8,500. The number of patients in February was 11,000 and the hospital beds, exclusive of discharge depots, was 12,291. Discharge depots contain 2,300 additional beds. The commission is better abreast of the situation now, with about six times as many patients to care for, than it was a year ago. "From a building man's standpoint the notable fact about the commission has been its creation of a new type of building—the military convalescent hospital."

The first convalescent homes were converted private residences, which had, for ambulatory convalescent patients, the advantage over the existing general hospitals of being usually surrounded by grounds. A disadvantage which soon became apparent was that the cost of adapting these small buildings to hospital uses was out of proportion to the results obtained.

The next measure tried, therefore, was to take over larger buildings. Colleges were found to possess peculiar suitability for this purpose, since they usually have large kitchens and dining rooms, class rooms suitable for dormitories, and, in some cases, open dormitories capable of holding twenty or thirty beds each. A number of colleges were accordingly taken, among them Loyola College, Drummond Street, Montreal. The cost of remodeling a building capable of accommodating 200 beds, however, was equal to that of erecting a building of the same capacity of the type since evolved by the commission. Moreover, "a feature not often regarded by the public is that the agreements in regard to most of these buildings oblige the commission to return the buildings as they were found, thus doubling the cost." Hotels have been offered to the commission, but the cost of remodeling a good hotel makes the type of building almost entirely unsuitable. "The next development was the decision to use certain existing buildings for what they were worth without very great alteration, and to add specially constructed wards as temporary wings."

An example of the buildings thus used in the Booth Memorial Home, North Toronto, a building originally intended as a training school of the Salvation Army, which was taken over when half completed. The original building was devoted to administration and infirmary purposes. Several acres of vacant land adjoin-

Fig. 2. Cafeteria at Drummond Convalescent Hospital.

*The illustrations accompanying this article are reproduced from *Construction* by courtesy of the Military Hospitals Commission of Canada.

ing gave ample room for the erection of ward wings, but the situation of the original building facing south, gave rise to a serious problem in orientation. The only place where a wing could be successfully attached was to the north at the rear, an undesirable site, since the constant aim was so to place the wards as to allow the sunlight to enter freely. This end was attained by erecting directly behind the original building a large service building and running a connecting corridor directly northwest, thus making it possible to erect two two-story ward wings, accommodating 300 beds, facing southeast, "an angle considerably at variance from the main building and not commended for its beauty," but desirable because sunlight is thus admitted.

Fig. 3. Eighty-four-bed ward at Manitoba Military Convalescent Hospital, Winnipeg, Manitoba. This institution contains 750 beds, and the reduction in proportionate overhead administration cost in an institution of this size has been proved to be enormous. It is typical of the next stage in hospital construction after that typified by the Drummond Street hospital, shown previously. The nucleus of the Manitoba hospital was the old agricultural college at Winnipeg, which, converted through the addition of one or two special ward wings and a central dining building, forms one of the most satisfactory institutions under the Military Hospitals Commission.

The new wards are devoted to convalescents, and these convalescent wards are regarded as presenting a typical feature of the Canadian Military Hospitals Commission construction. Each wing contains two wards of seventy-five beds each. Immediately after the corridor in these wards is the service block which contains toilets for patients, linen rooms, sinks, baths, showers, diet kitchen, doctor's consultation room, nurses' room and sometimes a small observation ward of two beds. A solarium furnished with easy chairs, card tables, etc., for use as recreation and smoking room by the patients, is always placed at the end of the ward remote from the corridor. This solarium is closed in but is provided with exits which can serve as fire escapes in the remote possibility of a fire.

Fig. 4. View in the balcony of Queen's University, Kingston, Ont., now used as a convalescent hospital, showing how partitions were erected to protect the decorative work on the pillars.

The ward of 75 beds was at first regarded as a convenient unit to administer and hence became a typical feature of Military Hospitals Commission construction. Later experience, however, has warranted variation from the type just described. At the Cobourg Military Convalescent Home, for instance, the connecting corridor meets the middle instead of the end of the wing, which is thus divided into two wards of 35 or 40 beds each. At Cobourg only one service block of 75 beds is provided, but at other later institutions service conveniences are provided separately for each of the wards.

With the development and expansion of hospital work it became necessary to have large hospitals in some places where no buildings existed to which additions could be made. The Military Hospitals Commission therefore decided to build for itself.

"Through the evolution of the ward wing and service wing a type of construction had been worked out which was considered to be suitable. Experience has shown that a whole new hospital can be erected along this line at less cost than old buildings could be adapted. The 300-bed hospital at Camp Hill, Halifax, is the first absolutely separate hospital building started by the Military Hospitals Commission and it has proved so far ahead of anything else the commission is using that it is doubtful if old buildings will ever be taken over again except in rate cases."

The next institution to be erected by the Military Hospitals Commission will have accommodations for 900 beds. Ste. Anne de Bellevue, Quebec, was the first selected, and others are now under way at London, Ont., and Calgary,

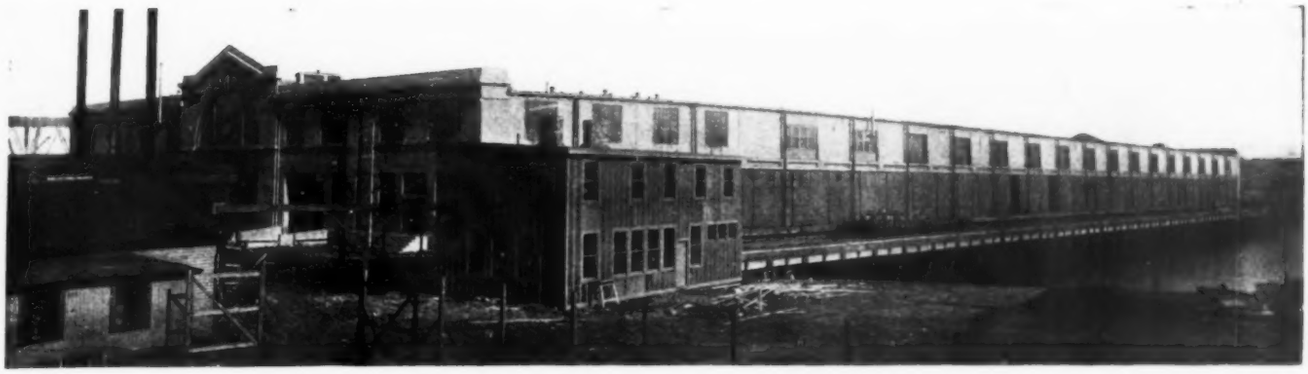


Fig. 5. Pier 2, Military Reception Hospital at Halifax, N. S. Hospital ships discharge at the wharf in the foreground, the upper floor being used as a temporary hospital. Hospital trains load on the lower floor. The lighting problem has been solved by substituting glass for all the big roller doors with which the sides were lined for disembarkation purposes.

Alta. The plan provides for ready expansion. It is intended that at first only a 600-bed structure shall be erected, two outside wings being added later as required and other additions being possible in a similar way. The central block is for administrative offices. Lateral corridors extend each way, leaving 38-bed wards in each side, each ward having its own service suite, toilet, nurses' office, linen rooms, etc., adjoining the corridor and a solarium at the end remote. There will be service suites for each 38-bed ward. Small structures between wings containing operating rooms, special treatment rooms for hydrotherapy, cloak rooms, etc. One wing is to be intended as an infirmary, and a service suite is planned accordingly with diet kitchen and observation ward. Running back from the administration block is another corridor leading to the dining room after which corridor is the kitchen and store rooms. Provision is made for a separate power plant at the rear.

Fig. 6. Typical ward at Pier 2, Reception Hospital, Halifax, N. S.

It is essential that the whole institution be located near the railway on account of the enormous quantity of supplies required daily not to mention transportation of patients.

It has been found that there is great economy in one large centralized institution over a series of small ones. It is possible to attract a higher class of officials and medical men to a large institution and a reduction in proportion of overhead, administration cost has been found to be enormous.

The equipment required for vocational training in particular could not in justice to the tax-payers be duplicated in small centers all over the country. It is said that a population of 12,000 or 15,000 convalescents is by no means an impossibility within the commission's institutions inside of a year's time.

HOSPITAL KITCHEN AND DINING ROOM PROBLEMS

These are discussed by Miss Violet M. Ryley, organizing dietitian of the Canadian Military Hospitals Commission, whose article on "The Work of the Dietitian in the Canadian Military Hospitals" appeared in THE MODERN HOSPITAL in February. The dietary department has six parts: (1) dining room; (2) kitchen and serving room; (3) special ward serving pantries; (4) storerooms; (5) dishwashing and scullery rooms; (6) office.

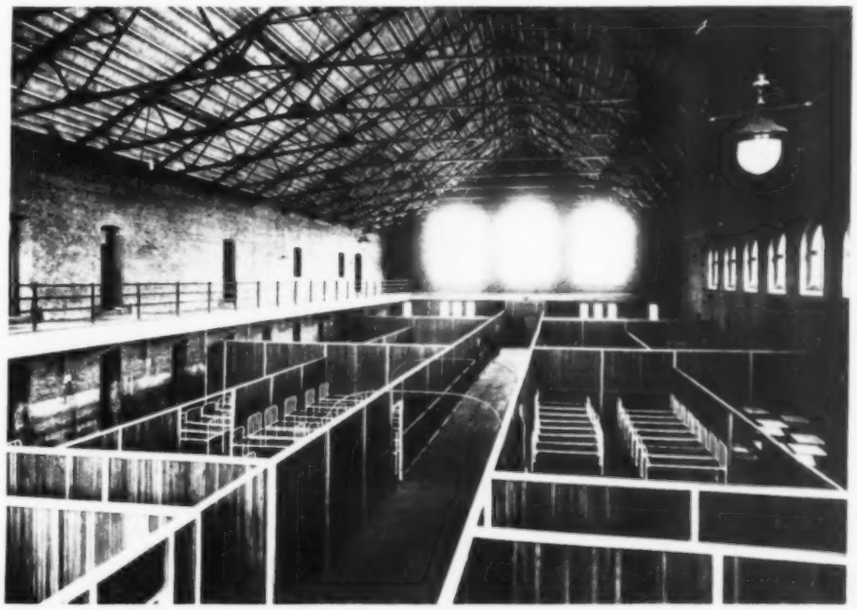


Fig. 7. Reception hospital erected in armories at St. John's, N. B., for emergency use.

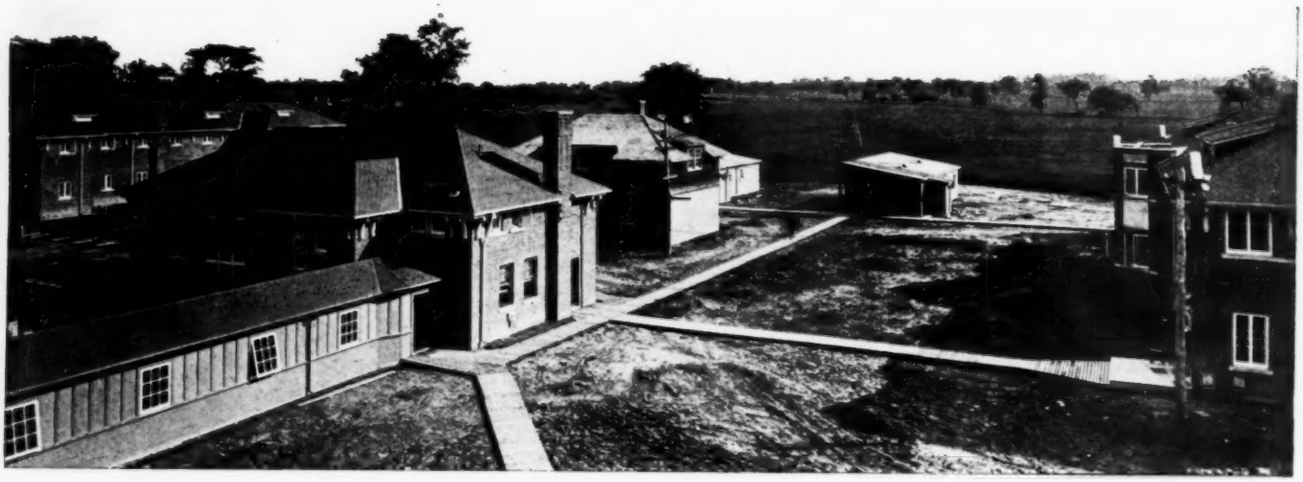


Fig. 8. Bird's-eye view of new buildings erected at Mountain Sanatorium, Hamilton, Ont., for the care of returned tuberculous soldiers. In the center are the dining hall and service buildings, with a new pavilion on each side.

1. The dining rooms in orthopedic hospitals are fitted up for ordinary waiter service, because so many of the patients are cripples. In a regular convalescent home, where the men are merely resting and being built up, the cafeteria system is used, as service is thus more rapid, and hot food is served hot and appetizing. In very large dining rooms, two cafeteria serving counters are installed so that two series of men may be served at once. A record of 600 meals in fifteen minutes was set up in one institution.

Fig. 9. Thirty-two-bed pavilion at Kentville Sanatorium, Kentville, N. S., a building typical of the structure evolved by the Military Hospitals Commission for tuberculosis work.

2. The kitchens are fitted with the latest steam and electrical equipment, such as three-compartment vegetable steamers, steam-jacketed stock pots and soup kettles, and electrical vegetable parers, meat-choppers, ice-cream freezers, and ice-crushers.

3. The food for men too ill to leave their beds, if the wards are at a distance from the main kitchen, is served from a special serving pantry, equipped with a small steam table, a gas or electric plate, hot water and coffee urn, small refrigerator, etc.

4. The storage department contains a large general grocery store room with dry groceries for a month or two, the cereals being carefully protected from mice or insects in a separate specially constructed metal lined room. The general store room has certain spaces assigned to the storage of case goods with canned goods in less than case amounts arranged around the walls on shelves, below which stand ordinary garbage cans for cereals in less than bag amounts. This receptacle, Miss Ryley says, has proved superior to bins in several ways. The cold storage plant contains from three to five small rooms, one for fresh meats, one for dairy products, another for cold meats and left over desserts, and a fourth for fruits and vegetables. Mechanical refrigeration is found particularly satisfactory because it gives the lowest temperature and eliminates the labor of handling, a considerable item, where several tons a week are required.

5. The dishes are washed in an electric dish washer and all pots and pans in large sinks where they are washed in clear, hot, soapy water and rinsed in hot clear water. The garbage tins are cleaned in a separate sink and sterilized with live steam.

6. The dietitian's office is furnished with a desk and filing cabinet, the latter containing a copy of all menus served to patients, cost records and plans of work for employes.

CONVERTING IMMIGRATION SHEDS INTO HOSPITALS

One of the most difficult things accomplished by the Works Branch of the Canadian Military Hospitals Commission was the conversion of two huge cement immigration sheds into first-class hospitals. Although these gaunt structures are as bare of anything that would rest the eye or cheer the soul as any edifice made by human hands, it was natural, now that the only immigrants to Canada are home-coming Canadians returning from the battlefield, that these new fire-proof government-owned buildings, built rather out on the docks, should be turned over by the immigration department to the Military Hospitals

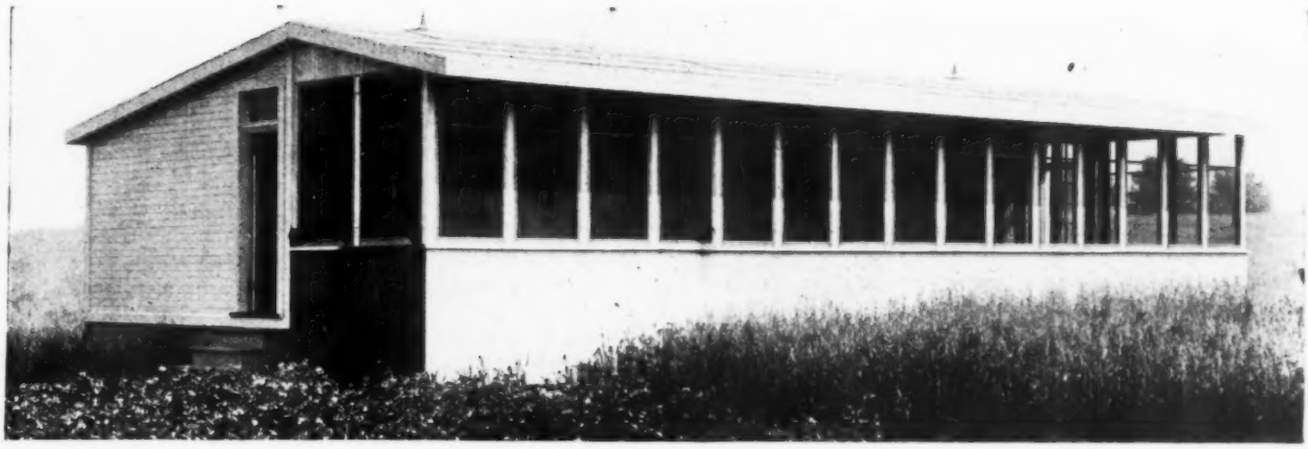


Fig. 10. Junior pavilion erected at Queen Alexandra Sanatorium, Byron, near London, Ont., by the Military Hospitals Commission. These small one-story structures, planned like the wards in a large pavilion, have been erected to meet immediate needs when it was found impossible to erect the large pavilions as fast as needed.

Commission. Both buildings are now used as reception and clearing hospitals for all classes of returned soldiers. The chief handicaps to be overcome are poor lighting due to the tremendous width of the buildings and gloomy aspect due to absence of paint.

The lighting difficulty was overcome at Halifax, the larger of the two sheds, by substituting glass in all the large roller doors with which the sides were lined for disembarkation purposes. A row of skylight boards was installed underneath the monitor extending from end to end of the building. Two wide corridors flanked the central wards and the outer wards are lighted from the ingeniously contrived window doors just described. At Quebec the building is narrower, and sufficient light is available for ward needs, the only aisles being at the outside. In each depot a tuberculosis hospital has been installed at the sunny end of the pier, the cement wall being opened up to give way to a glass front and other conveniences of a first-class sanatorium being provided.

Fig. 11. The tent colony at Kentville Sanatorium. The tents have windows, lavatories, and running water.

At Quebec there is a roof garden to which the beds can be wheeled through special wide doors. Recreation rooms and canteens are provided at both places, but, as it is not intended that the men shall stay at these institutions for more than a few days at most, certain services found in the convalescent hospitals are not provided here.

CARE OF SOLDIERS SUFFERING FROM TUBERCULOSIS

The first measure taken by the Military Hospitals Commission of Canada in caring for tuberculous soldiers was to take over and develop the Sir Oliver Mowat Sanatorium, which, having 220 odd beds, is now probably the largest tuberculosis hospital in the Dominion. The building was originally a historical old residence in Portsmouth at Kingston, Ont., which was adapted for use in connection with pavilions which were erected at once. An enclosed sun balcony was built for the fever patients.

The pavilion design adopted calls for 32 beds in two stories with two wards of 8 beds in each, fronting southeast, the whole front of the building being glass with movable sashes. For summer use the sash is thrown up or replaced with screens.

A later model calls for fifty-bed pavilions, as this size was found to be practicable. The building is in three sections from front to back. In front is the balcony with reclining chairs for daytime use, next the bedroom with its row of beds and bedside tables, and at the rear the individual dressing rooms which are the only portions of the building heated even in the dead of winter. The 12-bed wards are separated from each other by a large recreation room which in some cases has been built to project to the north some distance over the rear of the wards, giving the building a squat "T" shape. Lavatories are located in the dressing room strip, accommodations for each 12-bed ward being provided in one central compartment. Each building is provided with a diet kitchen and a nurses' room, but not with a dining room. Sick patients are fed from trays at the bedside and ambulatory patients walk to the central dining room.

It has been impossible at times to erect 32-bed or 50-bed pavilions as fast as they are needed and "junior" pavil-

ions, so called, have been substituted. These are one-story structures containing 8-bed, 10-bed or 15-bed wards, planned in the same way as the wards in the large pavilions. Individual hot-water heating systems have been used in emergencies for pavilion dressing rooms, but a central heating plant is planned at each place.

The tuberculosis sanatoriums erected by the Military Hospitals Commission were planned to be permanent additions to Canadian facilities for combating tuberculosis. The commission, moreover, contemplates erecting a 1000-bed sanatorium containing groups of pavilions built on the same principle as those now erected. There will be two groups of pavilions, each group accommodating 500 beds with an administration building between the two groups, and north of the administration building the dining and kitchen building. A large infirmary building for each group with accommodations of perhaps 100 beds will be provided at the rear of the dining rooms. Recreation buildings, vocational training shops, power plant, officers' and nurses' residence are to be provided in separate buildings. Only one group of 500 beds will be erected at first. A peculiarity of the group is orientation, symmetry being abandoned to a certain extent in order that all wards may face southeast.

The Kentville Tent Colony is the result of the emergency which arose when an unexpected number of tuberculous patients was discharged at Halifax. In eighteen days complete housing under canvas was provided for 160 patients. The place selected for the colony was particularly suitable in orientation, appearance, drainage and supervision. At the rear of the sanatorium grounds there is a flat plateau at the northeast corner of which is a crescent-shaped hill.

The tents were laid out on a 30-foot center and 6-degree curve exactly suiting the crescent shape of the brow of the hill. On a radical line struck in the middle of an arc at the rear is located the ablution tent. On a low level at either side of the same axis are placed the nurses' and orderlies' tents. The patients' tents are 16 by 24 feet with 7-foot walls erected on 2 by 4 framing and stretched rigidly over it. Each tent was provided with a ply and two vents at the top with weather flaps, also two weather flaps at the end and eight windows, four on each side, each provided with weather flaps and draw blinds. The wards are lined with 10-ounce duck. Each tent has a 7-foot flap at each end which is raised on poles to form a sunshade. The floors extend 7 feet at each end to form verandas under the flaps. The ablution tent, similarly constructed, is provided with lavatories, water closets, showers, and tooth basins for 160 men. A sewer was connected 450 feet away to the sanatorium sewer.

SYSTEM OF HOSPITAL CONSTRUCTION

J. H. W. Bauer, assistant in charge of the Works Branch of the Military Hospitals Commission, says that while the convalescent homes have been constructed in the same permanent manner and are styled "temporary" buildings, they are somewhat better than temporary structures and can readily be converted into permanent buildings. The foundations for these buildings are of the post-and-sill type. The finished walls of the interior usually consist of a patent board, the merits of which consist in ease and rapidity of application, desirable decorative possibilities, and sanitary finish. The two kinds of patent wall board which are most generally used now are both fireproof, one of them being called, because of its composition, "linabestos."

To the exterior sheeting of the building is applied one ply of heavy building paper which is strapped by ½- by 2-inch furring to which wall laths are applied and the whole then plastered with two coats of cement stucco. The flooring is composed of one ply of rough boarding to which is applied one ply of No. 1 maple placed upon one ply of heavy builder's paper. The tops of ceiling joists are always rough boards in order to better insulate the air spaces between joists and roof against heat and cold.

The Camp Hill Convalescent Hospital at Halifax is the only one so far erected with a view to permanency. Here the foundation is a 16-inch concrete wall in the entire building and concrete foundation piers are substituted for wooden posts. From this up the post-and-sill construction is still used. With a view to the semi-permanency the foundations are left one brick wide outside the main wall in order that the buildings may at any time be veneered with brick.

Some buildings now intended to be permanent will be constructed with concrete foundations, steel beams, wooden floor joists, steel columns, hollow tile walls with either stucco or brick veneer finish and plastered with two coat work on the outside. All buildings proposed to be permanent or semi-permanent are roofed with at least a three-ply Barrett specification tar and gravel roof.

Hospital Supplies Should Have Priority in Shipment

The war service committee of the American Hospital Association reports the receipt of several communications from hospitals complaining of delay in transportation. It seems that there is difficulty in securing priority in shipments for less than carload lots. There is danger that the difficulty of obtaining hospital supplies will increase. It appears desirable, therefore, to have as much information on the subject as possible available for use in Washington. Hospital administrators who have any difficulty in obtaining supplies will do well to report the matter to Mr. Richard P. Borden, secretary of the special committee on war service of the American Hospital Association, 728 Seventeenth Street, Washington, D. C. The information furnished should be as specific as possible, and should deal not only with the scarcity of supplies but also with the quality, etc., especially the quality of available surgical instruments, drugs, chemicals, and other distinctly professional equipment. All information which is either marked confidential or evidently of a confidential nature will be so regarded.

A Visitors' Dining Room

Not long ago, when we were visiting a very new and well-equipped hospital of 150 beds, the superintendent, while showing us over the first floor of the building, threw open a door and said, "This is one place I want you to see. The board of trustees and the architect and builders could not at first see my point of view in wanting to build it, but it has more than proved its usefulness. It is a visitors' dining room. Anyone who lives in hospitals can tell you of the numerous requests for extra meals to be served—relatives who want to be near a patient in serious condition or to keep him company during a tiresome convalescence—mothers who must stay close to the babies or young children—people from out of town—relatives and friends of doctors and nurses—all use this convenience and are glad to pay the fifty cents charged for a meal here. We have served nine hundred meals during our first year. Besides furnishing a courtesy and kindness to our guests, it saves work and worry for the nurses and dietitians and avoids the confusion of serving extra trays in the patients' diet kitchen." The idea is worth passing on to other hospitals about to build.

INDUSTRIAL REHABILITATION OF DISABLED SOLDIERS AND SAILORS

Conducted by ELIZABETH G. UPHAM.
Director Art Department Milwaukee-Downer College

As the workshop idea in hospitals is developing and assuming a real importance in the rehabilitation of the handicapped, those who are intending to begin hospital work will be interested in the following article by Miss Rachel Horner, former director of the industrial and recreation department of Muirdale Sanitarium.

The workshop at Muirdale has been one of the most successful hospital workshops in the country. Its organization and development took place under Miss Horner's leadership with the valuable help of Dr. Bellis and Dr. Cohn of Muirdale and the hearty cooperation of the Wisconsin Anti-Tuberculosis Association, the county administration board and the committee on county institutions of the Milwaukee City Club.

In spite of the uncertain war conditions of the past year, orders have never diminished and the Muirdale workshop is continuing to have a financial gain. Aside from any financial proft, however, the shops have proved such a sound medical policy that they are justified as an economic measure in shortening the patient's convalescence and in building him up for useful employment instead of later dependence upon county support or private philanthropy.

Miss Horner tells how to begin, how to secure the patient's cooperation, what obstacles may be expected, and what successes anticipated.

The Workshop Idea

By RACHEL HORNER, formerly Director Industrial and Recreation Department, Muirdale Sanatorium, Wauwatosa, Wis.

The other day I had a letter from a man in Albuquerque, N. M., who, "having been a victim of tuberculosis for over two years," was interested in the problem of how the patients can employ their time profitably. He thought that "most of us tuberculous need workshops worse than sanatoriums," and he wanted a few suggestions for starting his idea, which was "to have a municipal workshop established for the tuberculous 'bums' around here." In a way this gentleman was right, for, while the tuberculous do need, first, more well-equipped sanatoriums, they need, more and more, the workshops connected with the sanatoriums. There ought to be a workshop in every sanatorium in this country.

All that is needed to start a sanatorium workshop is a few hundred dollars—$2,000 at the most—one or more large, well-lighted and airy rooms, and a teacher or two, depending upon the number of patients "on exercise." Having the money, the place, and the teacher, the very first thing to do is to get acquainted. I should say that this is the cornerstone upon which the teacher is to build the success of the workshop. Meet and ask for appointments with all the physicians, social and public welfare workers in your community, interested in your idea. Meet all the friends of your idea, as far as possible. Tell them what you are going to do—that you just want a few minutes to talk it over with them—and ask for their suggestions upon the new workshop about to be put up in their community sanatorium. Further, if possible, meet one or two enemies of the idea—hear what they have to say—it will put you on your mettle and keep you there. The best encouragement I got when I started in was from a well-known Milwaukee doctor who told me that I must not imagine that I was falling into a sinecure, because such a thing as a workshop in our sanatorium was something that could not be done.

Next, get acquainted with the patients themselves. If possible, take a few weeks to visit the homes of former patients. Some you will find happily at work; others idle and useless—beaten victims of their disease. Talk over your workshop idea with them, and hear what they have to say about their experiences in the sanatorium. This is the quickest way to get the point of view of the patients. You will find them ready to help you with any amount of advice, much of which is useless, but these visits gain you friends and acquaintances among the people to whom henceforth you are to be official friend. You soon come to know their families and feel drawn to them in genuine human friendliness. Train your mind to remember the interesting little facts and details of their lives. Some of these people may come back to the sanatorium one day, and the fact that you remember that "tiny Tim" was hurt while running to a fire, or that Mr. M.'s potato crop was a bumper one, will endear you to them as their especial friend.

By this time the tools and materials which you have ordered some time ago for the workshop, all of which you have purchased as far as possible from local dealers, will have arrived, and now comes the pleasure of making the acquaintance of the sanatorium patients themselves.

At the very beginning, your superintendent, the physician in charge of the sanatorium where you work, will give you his rules and suggestions for the game and make you acquainted with the rest of the staff and the nurses. He will tell you that you must not for one instant forget the medical point of view in your work, and that you will find ready cooperation with your work in the other employees in the sanatorium. All of the ambulant patients needing "exercise" will do either light housework or work in your shops. It is for you to decide, according to the inclinations and abilities of the patients. You are to bear in mind that the amount of time prescribed to patients for exercise depends upon the doctor alone in charge of them. This exercise is prescribed like so much medicine, depending upon his examinations of their condition. If he orders the exercise to be for fifteen minutes, half an hour, two hours or four, for four patients respectively, they must work just that long and not longer, otherwise you are assuming responsibilities not yours.

One of the greatest difficulties of this work is that of reaching in the right way the patients themselves, at first. Be friendly, no matter what they do or say. Never forget that they are sick and that each in his own way is making a big fight. Firm but persistent friendliness wins them over to the idea in time, if they are against it in the beginning. A great deal of the success of the workshop depends upon having the patients take up the idea voluntarily. Make it their problem as well as yours. Once well started, they take it up willingly and for the most part eagerly. Going among them at first you will find them,

during their hours of recreation, at various amusements. Perhaps one is making sketches, another learning how to write, another whittling or playing the victrola, or a group playing cards. Generally there will be one or two sitting about doing nothing and looking stupid. This last group, if sent to you for exercise, we may as well dispose of right here, because you will have them with you always in any sanatorium. Give them every chance that you possibly can in the crafts. If hopeless, put them at housework. This group must not be confused with another, consisting of capable, intelligent patients, who are given housework to do because they must have exercise, and who for one reason or another have neither the desire nor the ability for handicrafts of any kind. I mention housework as the alternative, but it is to be understood that this matter depends upon the kind of sanatorium in question. In private sanatoriums where patients are allowed to walk about freely, the choice is easy, but in public sanatoriums it has been found wisest not to encourage free mingling among the patients; hence the choice is perforce narrowed to the foregoing.

To return to the patient sketching: catch his attention at once by giving him instruction and something definite to do. Take some of the others to the shops with you, show them your plans for workbenches, tables, and lockers; talk it over with them; get their suggestions. The discovery soon comes out very easily that you have at hand carpenters, cabinet-makers, shoe-cobblers, etc., skilled workmen of those trades before they broke down.

While you are paving your way with the patients, different members of the staff will have been giving talks to them upon the workshop idea, explaining to them what you are there for and what you are planning to do. Therefore from the start assume that your orders and suggestions are to be obeyed instantly. If you find disobedience let it go, since they are sick people they are apt to be stubborn and touchy, but at the earliest opportunity attack them with the same order or suggestion again, but couched in different terms—camouflaged, as it were. Most of the male patients come from former occupations where a shop boss or foreman was over them. From force of habit they obey instantly an order given straight from the shoulder. Be as gentle as your natural disposition allows you to be. I repeat, above all things, be genuinely friendly and human. This attitude will not in any way jeopardize your authority or lessen your dignity; on the contrary, it will gain you much in every way. Once they have faith in you as their friend, the patients will back you and your idea loyally before all comers, and with that sort of bond between instructor and patients the workshop cannot help but be a success.

It is best not to take for granted everything that a patient says about his skill and prowess in former occupations. He often misjudges his abilities and sometimes simply does not tell the truth. It is simple to find out his capabilities by more practical means, because too, many have become weakened and have deteriorated mentally and physically through disease. I used a few little tests and followed the results as guides to the patient's future work and placed each accordingly, allowing to each his or her preference as far as possible. Some of these tests were as follows:

1. Contests in shuffling and dealing a deck of cards. Some patients were quick and efficient, others methodical or slipshod; one or two would go to pieces before the crowd, but do very well by themselves.

2. Exercises in reading, writing, and figuring, the results of which can easily be imagined among a group of patients, mostly foreigners. To the most urgent and deserving of these I gave lessons in English and elementary arithmetic.

3. Exercise in folding up a newspaper properly, according to a newsboy's idea, in a tight roll for delivery at one's doorstep—a simple test requiring ability to observe and execute quickly.

4. The patient's general appearance, speech, neatness, and taste in dress told much in judging his character.

5. The steadiness or unsteadiness of a patient's hands told me whether he was best fitted for work requiring patience and skill in detail, or otherwise.

6. Giving the patient a simple task to perform like straightening up a litter on a table, and telling him explicitly how to perform it, to determine whether he was able to obey directions or whether he was going to do it in his own way, contrary to orders, perhaps incorrectly, willy-nilly. To find this out at the start saves later waste of time and mayhap valuable materials.

7. The way in which a patient addressed me showed me what the personal relations between us, as instructor and pupil, were to be. Being a woman, I had some trouble here, because some were of the rough foreign type, used to bullying women. It was the Americans among the patients who did the most to correct this wrong attitude towards women on the part of some of the foreigners.

8. Nail-driving contests, etc., in which we made a study of how to conserve energy by eliminating unnecessary motions. Through this last set of tests under No. 8, I was able to pick the men who were to help me as instructors to the other patients.

At the Muirdale Sanatorium workshops, Wauwatosa, Wis., the idea of graduated industrial exercise has proven to be very successful from both the medical and the practical business points of view. The shops there have made good financialy, and industrial recreation for the patients has come to be a necessity in the regular routine of their care and treatment. I shall refer to these points in detail later. It took three months to install and organize the Muirdale industrial recreation department. The following courses were offered for instruction: arts and crafts, basketry, carpentry, and manual training, including toy-making, shoe-cobbling, and photography. A special department known as the repair shop was always a very busy one; there all kinds of articles from the hospital, such as chairs and tools requiring repairs, were mended. Other crafts may be added best suited to the particular and practical needs of each locality. I have heard of an automobile repair shop for tuberculous convalescents at Valmora Sanatorium, Valmora, N. M. In Arequipa, Cal., the patients are turning out wonderfully artistic pottery. At Marblehead, Mass., among other things they make cement garden furniture. Chair-caning is a practical suggestion, gardening another. The more practical crafts succeed better, and the financial success of a shop where two or three of them are taught is assured because there is bound to be a demand for instruction. To this, too, I shall refer later.

At Muirdale Sanatorium, on a suggestion from the superintendent, Dr. Glenford L. Bellis, we ourselves made all of our own workbenches, tables, lockers, hoods, etc. This suggestion was no less than a stroke of genius, not only because it saved us nearly $1,800, but also because it gave everyone, patients, outside friends of the idea, coworkers, instructors, and all, a chance to feel that he or she was doing an active part to create a truly worthwhile organization. Hence all of these people helped to push it along. We encouraged the newspapers to talk

about our shops every now and then. Interested vistors from all over came out to see what we were doing. Whenever possible, the author of each and every suggestion put into practice was given his due. We all felt a great personal pride in having our ideas and little suggestions working out so well. The patients felt that they were really the fathers to the whole thing, and, in a way, they were, for their cooperation was splendid. They brought down their families each week to watch things grow. Mr. S. would point to a unique and very useful tool—a private invention of his—with tremendous pride. Perhaps a very substantial joint was the wonderful child of Mr. O's fancy. To all interested comers the peculiar merits of this joint would have to be explained. And now let me clinch the point that is the whole aim of the workshop idea. These things do the patients so much good, because they help them to take their minds away from themselves.

I had working under me for many months a Russian who could not speak a word of English. I taught him by first doing the thing myself and then motioning him to do the same. For a long time he could not understand just what we were trying to do. Interpretation from fellow countrymen speaking a little English did not seem to be clearly adequate. Then one day he came down a bit later than usual. We were all as busy as bees and so genuinely happy in our work. That Russian stood before us taking in the efficient work of men he had seen months before, emaciated wrecks, now well set up, real live workers. It came upon him suddenly—he had a vision—which to him probably meant that tuberculosis was not a hopeless disease and which to me meant that the workshop idea was sure to be a permanent one, constantly growing and with each development more successful.

We made special tests and studies of the most convenient heights and positions for our workbenches and tables. Some patients preferred to work standing up. It helped them and prevented stooping and cramped positions to have the tables breast high. V-shaped saw-boards were fastened to the tables, making a convenient place for working upon which to adjust most any kind of an article. Adjustable stools were made for these tables also, in case a patient grew slightly tired and wished to sit down. Lower tables of the most convenient height were placed for those wishing to work seated, and these were given comfortable chairs. All of our soldering, forging, etc., was done under an especially constructed hood with a draft sufficiently strong to draw off immediately all fumes and smoke harmful to the patients. Special aprons were made for the patients for workshop wear. Each patient had his own locker.

Do not imagine that such work in a sanatorium is all smooth sailing. There were days and days when everything seemed to be at a standstill. There were times when the patients were as ugly as demons for a week or more. One good thing was that they invariably got this streak of devilishness all at the same time. But tools would be deliberately broken or stolen. Sometimes pranks were indulged in which made the instructor the goat. Whole squads would stop working saying that they were not making anything out of it, or that they did not come to the sanatorium to work, that they could go to town and get five dollars a day or more at a "regular job." Times came again and again when I was inclined to believe with my pessimistic friend, the physician who declared that it simply could not be done. But bit by bit the patients took hold of the right idea and this was due entirely to the kindly and wise cooperation and direction of Dr. Harry Cohn, at present acting superintendent of Muirdale, whose unceasing efforts, wonderful influence, and skill with the patients always brought us safely over the rough places.

The size of the daily classes at Muirdale averaged sixty patients, men, women, and children. We found it better to class them according to their inclinations and skill rather than according to their physical conditions. Some of the patients on exercise, such as a watchmaker, wood-carver, designer, etc., did not come down to the shops at all except for materials, but worked in their chairs on the porches. Others were barbers; still others had household tasks to perform. Those skilled in any of the shop handicrafts were never allowed to do housework.

At the opening hour of 9 o'clock each morning the patients appeared before one of their number, as time-keeper, and showed their cards on which were noted the time allotted to each for exercise. Some told fifteen minutes, half an hour, and so on up to four hours. Many of the beginners went directly into the crafts in which they were most interested. Others having no preferences, or the overflow, if too many wished to go into the same department, were assigned to their places by the instructor. Beginners unskilled in any of the crafts were usually put into the repair-shop department. Here they quickly learned to see that, if they could mend a broken chair to look as good as new, the next step was to learn to make an entirely new article by themselves. The most skilled and efficient workers acted as assistant instructors to the supervisor. Classes were arranged in squads in separate rooms. For instance all of the toy-makers were in one room, divided into two squads, in one were to be found the beginners, and in the other the skilled workers who were turning out orders. All the departments were managed in this way. The time-keeper kept them supplied with materials and tools as needed, and went among them to check off each patient as his time was up and to see that he stopped working at once. The supervisor devoted some time every day to each department, teaching when necessary, and seeing to it that things were running smoothly. Each assistant instructor had one or two understudies ready to take his place upon his possible discharge as a cure or arrested case. It is a sad problem to confront, that just when a patient becomes most skillful and valuable to the shop he is ready for discharge. Solve it by having understudies.

Be it here noted that in no case, except in one or two in which the patient deliberately disobeyed orders when the instructor's back was turned, was it found that industrial exercise in the shops had a harmful effect upon the patient, physically or mentally. As the patient improved in condition his time was gradually increased by the doctor. For the most part, the women worked in a separate room, but there were some men who worked better with women around, so in these cases men and women were placed together. We never had any real difficulties as a result of letting the men and women be together. The relations between them were ever wholesome, helpful, and pleasant. Where occasional troubles arose the parties to it had to forfeit workshop privileges.

A word as to the morale of the workshops. At first we had a great deal of trouble about lying and stealing. We found it best not to make such instances moral issues. When we caught men lying we called them into the office for private speech, wherein we told them that we took it for granted that every man working under us was a gentleman and that gentlemen never told lies. This never failed to have a miraculous effect. We put the chronic liars at housework until they saw the light. As for stealing, we maintained that with many of them it had become

just a bad habit because they had never had it brought home to them that they were only harming themselves. The necessity of practicing good habits was essential to successful sanatorium treatment, they were told, and it was understood that those refusing to conform were discharged. Therefore persistent thievery had to be placed in this last class and treated accordingly. This trouble soon stopped almost entirely.

The proceeds from the sale of articles made at the Muirdale Sanitarium workshop goes back into the department fund. All the expenses of this department, except the salary of the instructor, are paid from this fund. The steady gain in quality and quantity of output has been such that it is believed that in time it will be self-supporting.

Giving the patients part of the proceeds of the sales of articles made by them in the shops was found to be an unwise plan. It not only introduced competition, which endangered their physical wellbeing, because as a result the patients overdid, but it caused ill feeling among those not able to do as well as some. We never allowed the sociability of the patients during shop hours to interfere with their work, neither did we forbid it entirely.

We never had any difficulty finding a market for the articles made in the shops. Our sales depended more or less upon the season of the year. In October, for instance, we began to solicit trade for the Christmas season. We were flooded always with orders at this time for hand-wrought jewelry and silverware, baskets of all kinds, hand-carved picture frames, watch-stands, toys, and hand-made Christmas cards. Belated orders kept us busy until the end of January. Then came the season equally filled up with orders for summer articles, such as bird-houses, flower boxes, copper flower bowls, pots and baskets and cedar chests. The late summer months were principally given over to preparation for the annual state fair exhibit in September as well as the making of miscellaneous articles. I have not included needle-crafts for women, because at Muirdale we took the women down to the shops and taught them other handicrafts. With a little direction, however, those wishing to sew or crochet were detailed as instructors to others of like inclinations wishing to learn. Where they wished to sell such articles, we found a market for them. With all the articles made in our shops, we were never overstocked because of no sales for the simple reason that we never turned out a single finished article unless it had been ordered beforehand. Customers were given to understand that we considered no orders whatsoever unless they were given a month ahead, and we never lacked for customers. At present the shops at Muirdale are paying their own expenses for upkeep and are showing goodly and steadily increasing profits.

In closing I should like to mention one or two little things that helped to educate the patients and public and to advertise our idea all over. We used bulletin boards in the shops and pinned thereon all items, clippings, etc., in line with our idea, of possible interest to the patients. They never failed to stop and read every word. This suggests the possibilities of a sanatorium news sheet, the expenses for which might be covered by regular subscription prices, and exchanges made with other sanatoriums. Then again, we never lost an opportunity to exhibit our workshop products to the public, nor did we refuse opportunities to talk to the public about our workshop idea. Women's clubs like to hear about it, medical conventions also. On special holidays we got up plays and entertainments in which the patients took part. For the future, our photography department took pictures of each new growth of our workshop, of each kind of article turned out and of the patients, such pictures as the "before and after treatment" kind in which you may see for yourself the difference in appearance of a patient upon his admittance for treatment, his first day in the shops, and upon the day of his discharge. You might say upon looking at some of these, "Can this be the same person?" and our answer is "Oh! yes, indeed, and see how hardened he looks, really ready to tackle a regular job. That is due to the setting-up exercises received in the workshops."

One Promoter Learns Why

Promoters, for some reason, have marked hospital people down as easy prey. At any rate, most of us are flooded with touching letters offering to take charge of our savings and make us rich beyond the dreams of avarice. The following correspondence, published in the official bulletin of the Chicago Medical Society under the caption, "The Soft Answer That Turneth Away Wrath," will, therefore, be particularly enjoyed by hospital people:

"A stock promoter recently wrote to some of our members, as follows:

" 'Dear Doctor ————:

" '————: Will you do me a favor? I want you to write me a letter and tell me frankly why you have not bought stock in our company. I am very anxious to know what has prevented you from taking advantage of our offer, and I will appreciate it if you will tell me, etc., etc.

" 'Yours for final action."

"This is one of the letters the promoter received. We fancy it was some 'answer' and some 'final.'

" 'Mr. ————:

" 'Dear Sir:

" 'Sure I'll do you a 'favor.' (By the way, you can 'go some.') I haven't bought any of your 'wall paper' for several reasons, among which are:

" '1. The fact that anybody who has any stock to sell that's worth a damn doesn't offer it to doctors—simply because he doesn't have to—and 'capital' rarely lets the 'good things' go out of the family.

" '2. The chances of winning out in the other fellow's promotion game are about 500 to 1 against; therefore, as an investment, a lottery or even craps has you beat a city block. As for the traditional celluloid dog with wax legs chasing the asbestos cat through hell, his job is a sinecure compared with the position of the fellow who backs the average stock promotion scheme.

" '3. Because I was 'vaccinated' years ago, and therefore, am an immune.

" '4. Because, according to the best authorities, the moon is not made of green cheese.

" 'By the way, publish this letter. Most of the 140,000 suckers who are practicing medicine in America (each is a 'prospect' know something of me, and the publication of this might help you to sell your stuff. Mother Eve would have fallen several days sooner if she had had somebody to warn her. Go to it, me laddie buck, and oblige me by saving your stamps by omitting me from your mailing list.

" 'Incidentally, you did 'save' one. When business men ask one to correspond with them relative to their own interests, they usually inclose a stamp for reply. A 2-cent stamp put into your scheme, of course, is a reckless investment. But, then, I am a good sport and have charged mine off to amusements.

" 'Very truly,

" 'G. FRANK LYDSTON.' "

When thou dost purpose aught within thy power,
Be sure thou do it, though it be but small;
Constancy knits the bones and makes us stour.

—Matthew Arnold's Notebook.

QUERIES AND ANSWERS

The Problem of the Capable Supervisors Whose Methods Are Out of Date

To the Editor of THE MODERN HOSPITAL:

Some time within the next eight or ten months we expect to move out of our present cramped quarters, as you know, and move into the new ———— Hospital buildings. The board of trustees and myself have had on our minds one worry, which I think has caused us more insomnia than all the arguments pro and con of details of building and equipment, and I am going to ask your advice and opinion about it.

It seems as though we could not see light on this our most perplexing problem at all until today, when one of our trustees, whose heart is big and whose purse puts no limit to his good deeds, said to me, "Doctor, we just must find some right way out of this thing. Get the right advice, find out what to do, and I'll pay the bills."

We have with us five supervising nurses who have been in service here with the hospital from four to twelve years. They are good, capable women, devoted to the institution and its interests, and looking forward to the work in the new building with the greatest enthusiasm. Now, some members of our board contend that these women will not be able to meet the new conditions and higher standards which we will have in the new equipment, and propose to replace them with graduates of a college which gives special hospital training, who, it is maintained, will give more prestige to our new undertaking.

Mr. A., the trustee I mentioned, heads the other faction, which says that it would be wrong to change the heads of our departments after their years of faithful service. Suggestions are in order.

CHIEF OF STAFF.

Please tell Mr. A., your trustee, that if in the new hospitals he can combine efficiency with the humanity he displays on this question, we have no doubt of your future success. On the other hand, we realize the necessity of having your supervision in the hands of women who will have the best training for the important work you are going to undertake and to give your doctors and nurses the best school to work in.

Your problem is not a new one. Some reconstructed hospitals have met it by keeping their supervisors and keeping their same old methods which has retarded the work done. Others have replaced their older supervisors with people of more recent advanced education and less experience, and in some cases have been handicapped by too much theory and too little practice.

We know of one place of high standing which met this question in the way described below, and very recent reports from there are enthusiastic concerning the results. They, too, had a good Samaritan who was willing to pay the bills to make it right.

The supervisors in this case were the nurses in charge of the operating rooms, the maternity pavilion, and the dietetic department, an instructor in the training school, and the nurse in charge of the dispensary service. The supervisors were called together by the president of the board and the superintendent for friendly conference, and told in a tactful way something of the situation and asked if they were willing to work and study to meet it. The facts developed then and there that not only were they willing to educate themselves further to meet the new needs, but every one of them was ambitious for further study in her own line of work and prepared to meet at least part of the expense.

Arrangements were then made for the operating room supervisor to spend several months in the surgical department of a large hospital which is especially known for its training of nurses in surgical technic. The instructor of nurses matriculated at an eastern college for special work in training school instruction and management. The maternity supervisor was booked for a certain term in a hospital with a famous specialist on obstetrics. The dietitian went to work for her needed experience side by side with a dietitian of national reputation in hospital work, and the dispensary nurse went for a special course in a big collegiate dispensary and out-patient department.

The leaves of absence were so arranged that only two supervisors were away at one time. When the new buildings were opened they were opened with five supervisors who were new women, loyal to the old traditions, ripe with experience of existing conditions, and alive with reeducation and new plans and ideas for the bigger work to be done.

First-Aid Equipment for Industrial Plant

To the Editor of THE MODERN HOSPITAL:

What equipment should be provided for a first-aid and rest room in an industrial plant employing 175 women and girls at an industry involving no special industrial risks?

SUPERINTENDENT OF A PERFUME FACTORY.

This inquiry was referred to Dr. L. L. Watters, author of the article "Emergency Hospitals for Industrial Plants," which appeared in THE MODERN HOSPITAL in February, 1917. Dr. Watters replies:

"In answer to the inquiry of your correspondent for suggestions for an equipment of a factory employing 175 women and girls, it would seem that no very elaborate equipment be required, and whatever equipment is required should partake somewhat of the nature of a combined treatment and rest room. It is taken for granted that in a plant of this size no permanent physician or nurse is employed, and possibly but one or two moderate-sized rooms would be available. If two rooms are available, then in one room should be installed:

A hospital bed.
A cotton felt mattress.
2 pillows.
1 pair blankets.
1 dozen sheets.
1 dozen pillow cases.
2 bedspreads.
6 dozen towels.
1 chair.
1 bedside table.
1 waste receptacle.
1 invalid reclining chair.
1 pus basin.
1 medicine-dropper.
1 medicine glass.
¼ dozen assorted bowls.
A moderate-sized first-aid outfit, with commonly used medicines.

In the other room, or in the same room if there is only one, there should be:

1 Gardner portable treatment table.
1 revolving stool.
1 white enamel steel chair.
1 glass-top table, size about 18 by 32 inches.
1 waste receptacle.
1 electric light reflector.
1 combination cabinet for medicines and supplies.
1 clothes hanger.
1 carrying stretcher.

1 bowl stand.
1 three-fold screen.
A few simple instruments."

Elaborating somewhat on the foregoing, we rather believe that one large and two small adjoining rooms will work out best. The larger room should be much like a sun parlor and as pleasant and attractive and homelike as you can make it, a complete and direct change from your factory atmosphere. Have your furniture of willow or rattan and cretonne covered and have pictures, growing plants, books, and rugs around. Have plenty of rocking chairs and a few comfortable couches. Off this room should be a bath room with a tub which could be used when a hot bath would be indicated for treatment.

The first of these two smaller rooms should have a wash sink and a waste sink and should be equipped for first aid, having a case containing simple medication for emergency use, hypodermic tray, small oxygen generator, apparatus for eye, ear, nose, and throat treatment, dressings and a few instruments. The lowest shelves of this case should always have present, irrigation apparatus, hot water bags, ice caps, a Kelly pad, and enameled wash basin, dressing and emesis basins.

You will need for other furniture in this room one examining table, three white chairs, an anesthetic stool, two small tables for dressings and instruments, a large three-fold screen, a basin standard, and a waste bucket.

The last of your small rooms may be really like a hospital ward, equipped with at least three hospital beds with good mattresses and plenty of bedding and each having a bedside table of its own. This last room should be shut off from the other two by double doors and be as noise-proof as possible.

A Waiting Room for Visitors Near the Operating Room

To the Editor of THE MODERN HOSPITAL:

Would you think it advisable in constructing a new operating room wing of the hospital to provide for a visitor's waiting room, that is, a place where the relatives and friends of the patients that are being operated on, who insist on coming into the operating rooms, may wait till the patients are taken downstairs, and get the verdict of the operating surgeon as soon as possible?

A SUPERINTENDENT ON THE WEST COAST.

We think that the visitor's waiting room in connection with the operating rooms of a large hospital is certainly a good thing, as it does away with much unpleasantness and annoyance, such as having visitors standing in the halls in the way of workers and peering into places which are intended only for professional eyes to see. If you can plan space enough to add this room to your suite you will certainly find it useful.

Unification of the purchasing systems of 18 Minneapolis hospitals was decided upon at a recent conference of superintendents at St. Barnabas Hospital, that city. Tests of coal, chemicals, drugs, and other supplies to ascertain their quality before purchases are made are to be among the advantages by which the hospitals expect to benefit under the new plan.

The Belvedere Private Sanitarium, a new institution, will be opened in New Orleans in the near future by Dr. B. F. Gallant and others. Construction work on the building which, with its equipment, will represent an expenditure of approximately $100,000, is nearing completion. Dr. Gallant will hold the position of resident physician.

RED CROSS WORK AMONG MENTAL PATIENTS

Patriotic Work Done in the Connecticut Hospital for the Insane—Ambition and Self-Respect Fostered by Opportunity to Help

BY HELEN C. BRAINARD, Occupational Instructress, Connecticut Hospital for the Insane, Middletown, Conn.

Through the Occupational Department of the Connecticut Hospital for the Insane, the services of the patients were offered the Middletown Chapter of the Red Cross Society, and a large amount of work has been completed. The materials have been furnished by the Red Cross Society and brought to the supply room of the occupational department. Here a patient who is extremely interested in the work practically takes charge of it. She keeps all records of the materials received, the work given out and the completed articles that are returned. The materials are distributed about the wards and sent out to the different groups or classes.

As we have no sewing machines in the occupational department the work is limited to hand work—cutting, basting, hemming, and knitting. Before the electric cutting machine was installed in the Red Cross rooms, pajamas, hospital shirts, operating gowns, and other garments were cut and tied up in bundles ready for the society to give out. Innumerable squares of fine gauze have been cut and hemmed for handkerchiefs. Large quantities of towels, abdominal and triangular bandages, sheets, and pillow cases have been cut and hemmed. Many knitted articles, heavy slip-on sweaters, helmets, wristlets, and socks have been made.

The Red Cross work has really opened a new field for occupational therapy. It has been possible to interest a great many patients in work for the Red Cross Society who would do nothing else. Many patients have the idea that in other kinds of work they are helping the state or officials of the hospital, who, they think, are keeping them unjustly, but appreciate that the Red Cross Society is a worthy organization and work for it willingly. Patients who are occupied about the wards, in the kitchen, laundry, and other departments have been anxious to spend their spare moments in doing what they could. Those who were not able to do anything else but were eager to do something, have cut small squares from the scraps left in cutting and tied them in bundles of twenty-five for gun swabs. Some of the patients who have done large amounts of knitting are old women who learned to knit when they were children; others are foreigners, to whom knitting is almost second nature, but a great many have been taught to knit and have accomplished results which would compare favorably with any accomplished by women outside of the hospital.

There is an old Swedish woman who has taken a particular interest in the Red Cross work. She has a daughter who plays some active part in the Red Cross chapter of her town, and the mother is eager not to be outdone. She has knit twenty pairs of socks in about three months. One day this woman handed a pair she had completed to the occupational instructress and said, "Today is the Kaiser's birthday. Please fill these with dynamite and give them to him for a birthday present." She seems to have caught the spirit of the times.

One woman came to the instructress with a little clipping from some magazine. It was a plea for the women of the United States "to do their bit" by knitting warm garments for our fighting men. She offered to knit a sweater if we would give her the yarn, and did make a fine one. With the Red Cross work, the fact that so often

the work is not "prescribed" and is generally followed for its own sake makes it a wholesome interest and of special value in occupational therapy.

We have little flag pins with a red cross on them which are given the patients who do this work, and you may be sure there are many proud and happy to wear this insignia of service. While we are cautioned to bear in mind that the benefit to the patient and not the finished product should be the aim in occupational therapy, still, to them, as grown men and women, the fact that they have really done something of value is a great satisfaction. The interest shown by the nurses, attendants, and other employees in the Red Cross work has also been an added stimulus.

We have recently installed knitting machines, and work is under way with them which we are sure will be of value. With the proper facilities the possibilities of utilizing a class formerly considered dependents is unlimited, besides the work fosters ambition and self-respect and the joy of service in the fact that the patients are participating in the great work which is going on all over the country.

The Contribution of Mount Sinai Hospital, New York, to the National Service

Up to January 10, 75 physicians connected with the Mount Sinai Hospital had been commissioned in the Medical Reserve Corps; these included the following groups:

Attending staff, medical and surgical	17
Out-patient staff	22
Attending specialists	8
Interns	28

In addition, more than 40 members of the Mount Sinai Alumni Association have been commissioned and have been assigned to active duty.

Of the board of trustees of the hospital, one has been commissioned as a major in the quartermaster's department and one a major in the engineers' corps; in addition, two members of the board of trustees are giving full-time service to the American Red Cross.

Sixty-five Mount Sinai nurses, including the associate superintendent and the night superintendent of the training school, comprise the nursing staff of Base Hospital Unit No. 3 (the Mount Sinai Hospital unit), which is now on foreign service.

There are being conducted by the Red Cross chapters classes in home nursing, dietetics, and first aid. Enrollment in these classes consist of good-hearted, earnest lay women who are preparing themselves to be of at least some aid should the emergency arise. Recently we went over some of the examination papers and have selected the following answers as imparting a light upon how the subject has been grasped:

Q. Describe the spine?

A. The spine is a long bone running the entire length of the body and is very dangerous.

Q. Describe how you would prepare a sitz-bath?

A. A sitz-bath is taken in a cup of water and is used to relieve conjestion.

Q. What is hypodermoclysis?

A. It's a chest enema.

Q. What is vermin?

A. An insect usually formed on a cat and is very dangerous to have around the house.—Journal Michigan State Medical Society.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature
Army Medical Museum and Library, Office of the Surgeon-General United States Army.

Indications to Be Followed in the Establishment of Malaria Hospitals. Ann. d'hyg. pub., Paris, 1917, XXVIII, No. 9.

Malaria has increased to such an extent among the soldiers of the armies in Macedonia that a great number of malaria hospitals had to be established. These hospitals have not always been located with a view of preventing the spread of the disease. Malaria hospitals should never be established near breeding places of the anopheles mosquito. The mosquitoes may be carried by the winds from a distance of three or even more kilometers and bite the patients and thus become carriers of the disease. To prevent all possibility of infection it is advisable to provide all doors and windows of malaria hospitals with screens to keep out the mosquitoes.

An American Hospital in London. Science, N. Y., Oct. 26, 1917.

In the presence of Surgeon General Sir G. H. Makins, General Nassiter and Sir A. Keogh, the American ambassador in London opened St. Katherine's Lodge, Regent's Park, as a hospital for American and British officers. The hospital was equipped by Mr. and Mrs. W. Salomon of New York and will be maintained by them for the duration of the war. It is fitted to accommodate orthopedic cases. Two experienced American orthopedic surgeons, Captain Kidder of Detroit and Captain Willard of Philadelphia, are at the head of the institution. The hospital is controlled by the American Red Cross and is the first hospital to be established by this organization.

The World's Northernmost Hospital. The First Hospital in Longyear City, Spitzbergen. C. Smith. Tidsskrift f. d. Norske Laegefor., Kristiania, 1917, XXXVII, No. 25.

For some years past a number of American, English, and Russian companies have worked the coalfields of Spitzbergen island, but until lately there were no hospital facilities, worth mentioning. In the fall of 1916 the American mines were acquired by the Great Northern Spitzbergen Coal Company, which at once undertook to build a hospital. The building, a two-story frame house, was completed in Norway, transported to Spitzbergen, and set up near the mines. It is 10 meters wide and 17 meters long (about 33 by 55 feet), and contains two sickrooms, a laboratory, an operation room, a room for the nurses, etc., and is provided with a central heating plant and electric light. As the mines are worked summer and winter, the hospital is open all the year around.

The Auxiliary Hospital of Rochefort-en-Yvelines. Jour. de méd. de Bordeaux, 1917-18, LXXXVIII, No. 10.

The beautiful chateau of Rochefort-en-Yvelines near Bordeaux has been turned over by its owners, Mr. and

Mrs. Porgès, to the French army medical service. The donors have also provided a large sum of money for converting the building into a hospital. The chateau is a monumental structure built on the plan of the Palace of the Legion of Honor in Paris. It is located on a hill surrounded by a beautiful park. The hospital contains 130 beds. The spacious rotunda has been converted into a beautiful recreation hall. A number of rooms have been set apart for officers and non-commissioned officers. There are two operation rooms, one for septic, the other for aseptic, cases. On account of abundant electric light operations are performed at night as well as by day. The hospital is managed by the Association of French Ladies.

An Operation Rroom for Operations on the Bones and Joints and for the Extraction of Foreign Bodies. Petit de la Villéon. Bull. et mém. Soc. de chir. de Paris, 1917, XLIII, No. 26.

The author describes an operation room which can be changed into a dark-room for operations under x-rays, or under red light with a lamp of 100-candle power. The operating table is lighted up from below like all tables for operations under x-rays, but in this case the table can be inclined 25 degrees in all directions. The table, covered with a sheet of aluminum, carries three protecting screens for the radiologist, the surgeon, and the anesthetist. The lamp is provided with an easily adjustable diaphragm protecting the hands of the surgeon from the cone of rays. Only the ends of the instruments are exposed to the rays. The instruments used for such operations must be sufficiently long so that the hands may be kept out of the cone of rays.

The Antivenereal Struggle. Organization of Hospital Dispensaries for the Civil Population. Gougerot. Ann. d'hyg. pub., Paris, 1917-18, XXVII, No. 9.

The author, who is at the head of the venereal center of the ninth region, has had great experience in this field. He recommends the establishment of services connected with the hospitals (*services annexes*). He has established eleven such services in his department and has used various systems of consultation: 1. A good system is one by which the venereal service is combined with a general dispensary, as the venereal persons are mixed with the other patients and secrecy is thus assured. 2. The patients are sent to the specialist of the hospital, who treats them with his other patients. Here, too, secrecy is assured. 3. Another system is the special dispensary conducted by a specialist. 4. A traveling venereal service for workingmen may be conducted in small establishments located at a distance from a large center. The author also advises a strict supervision of the so-called clandestine prostitute.

Heliotherapy in the Treatment of War Wounds. N. Cazin. Compt.-rend. Acad. d. sc., Paris, 1917-18, CLXV, No. 26.

The wounded soldiers are exposed to the sunlight on a terrace, in a garden or in the hospital court. The treatment is progressive. On the first day only the feet are exposed for five minutes three times with an interval of half an hour; on the second day the hands and the feet as far as the knee; on the third day all the limbs for fifteen minutes three times with an interval of half an hour; on the fourth day the abdomen is added; on the fifth the whole body is exposed, the head being covered with a white cloth and the eyes protected with yellow eyeglasses. The insolation of the whole body is gradually extended from a quarter of an hour daily to three hours, with interruptions of a quarter of an hour to half an hour as long as the body is not fully pigmented. With this method the author has had great success in treating wounds of the soft parts, many complicated with lesions of the bones. He has cured many cases of stercoraceous fistulas from penetrating wounds of the abdomen. He has also cured, during the last two years, numerous cases of infected fractures of the bones, and all the claims of Dr. Rollier with regard to the general and local effects of the sunbath have been confirmed.

A People's Sanatorium for Patients with Surgical Tuberculosis. C. Dekker. Tuberculose, s'Gravenhage, 1917-18, XIII, No. 3.

The author, having visited Dr. Rollier's heliotherapeutic institute at Leysin, Switzerland, gives a full description of this establishment and then considers the question if the sun treatment can successfully be carried out in low countries. In his opinion places with a low altitude labor under disadvantages because the ultraviolet rays, which have such great curative value, are to a great extent absorbed by the water vapor contained in the air. But in recent years it has been possible to produce an artificial light by the mercury quartz-lamp, which contains a large amount of ultraviolet rays. This made it possible to carry out the light treatment of surgical tuberculosis at low altitudes. But this treatment requires specially constructed sanatoriums. The buildings should be so constructed that the upper floor is set back from the lower one and the rooms of exposure should have glass walls so that they can be heated. Under such conditions it is possible to expose the patient summer and winter to the sunlight. On days in which the sunlight is absent, the patients are exposed to the action of the quartz light. The results of this method of treatment rival those obtained in mountain sanatoriums.

A Military Hosiptal for War Times. G. Marcovigi. Riv. di ingegneria san., Turin, 1917, XIII, Nos. 20-24.

Experiences in past wars, especially in the Crimean and the Civil War in the United States, have shown that the barrack hospital is the true type of military hospitals in war times. Recognizing this fact, the medical department of the Italian army decided to establish a large hospital of this type near the city of Bologna at the very outbreak of hostilities. Five large one-story pavilions and a number of accessory buildings were erected. Each pavilion has the form of a St. Andrew's cross, the four arms meeting at the center, where the accessory rooms, indispensable for the care of the patients, are located. This form was adopted because it was considered superior to all others for performing the hospital service. Each arm, 27.3 meters long and 6 meters wide, with a height of 4 meters (about 90 by 20 feet, and 13 feet high), has room for thirty-two beds and two small rooms of one bed each. The walls of the barracks are formed by reenforced cement pillars (system Marcovigi) the intervals being filled out with hollow tiles. The construction of the roof, covered with tiles, is very simple, the wooden rafters being held together by iron rods. The floor, separated from the ground 0.5 meter (1½ feet) and supported by small brick walls, 1 meter (3 feet) apart, consists of hollow tiles covered by a layer of cement.

Miss Genevieve Masterson has resigned the superintendency of the Ithaca City Hospital, Ithaca, N. Y., and it is announced that she will be married shortly after Easter to Mr. W. D. Clifford, of Syracuse. Miss Masterson has been with the Ithaca hospital two years. Formerly she was connected with the Syracuse Hospital for Women and Children.

NEW INSTRUMENTS AND EQUIPMENT

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

The Frink Linolite Operating Lamp

This new type of illuminator for operating table consists of an octagonal reflector, 6 feet in diameter, surrounding the entire table, so designed that the direct light

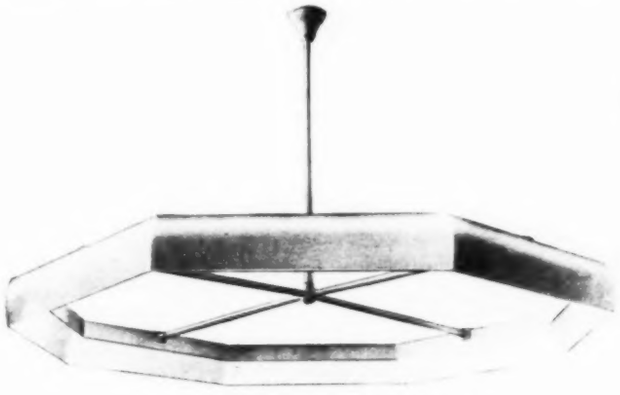


Fig. 1. Frink linolite operating lamp.

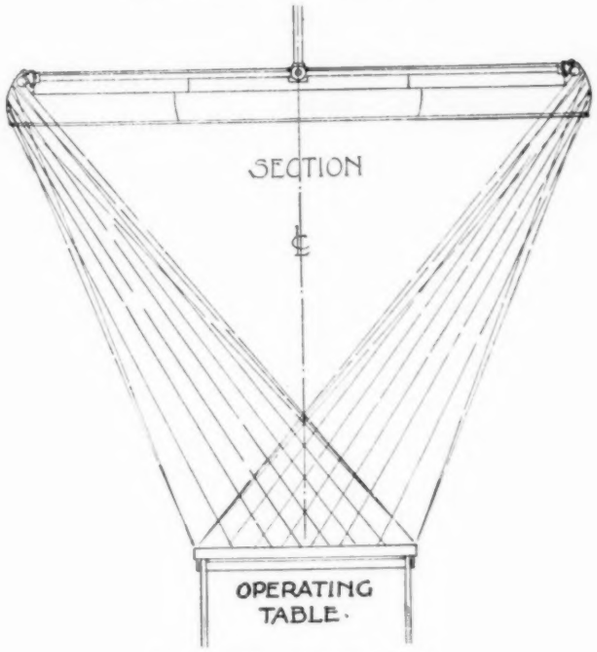


Fig. 2. Shows diffusion of light.

of the lamps and reflected light is confined to the top of the table. (See diagrammatic drawing.) The Frink linolite lamp used with this fixture consists of a glass tube 1 inch in diameter and 11¼ inches long. When placed end to end, the "Frink Linolite" forms a continuous "line of light." The filament being a line source of light, paralleling the angles of reflection, enables one to confine the light to a given area or distribute it with equal intensity over a definite surface.

Each section of the octagon contains two 40-watt linolite lamps, sixteen lamps to the fixture, 640 watts or 480 candle power. It can be readily understood that with this candle power spread out in a line 6 feet in diameter, the obstruction of light from any position must be far less than when the light is focused on the table from several sources.

It is finished in white enamel inside and out, and is wired for alternate control of lamps.

A Portable Sinusoidal Apparatus

A sinusoidal current of the three-phase type in combination with minor waves, all of which are of the sine nature, is produced by this new apparatus.

During recent years the great efficiency of sinusoidal current has attained recognition as a means of treating

Kayess portable sinusoidal apparatus.

diseases. The value of constant current, great as it is, is practically bounded by its ionic and electrolytic effects. To stimulate nerve and muscle tissue, the electric current must be of the undulating and interrupted type, and it is for this purpose that sinusoidal currents are by far better adapted. While it is true that voluntary muscle fibers may be caused to contract with the "make-or-break" of constant current, such contractions are sudden and painful in their nature; the same may be said of abrupt alterations of the induced faradic current. Further, while involuntary muscle fiber, such as that of the stomach, intestines, or bladder, may be made to contract by interrupted, constant, or faradic currents, such current must be so powerful as to cause intolerable pain, and also, in the case of constant currents, polar effects come into play, with the

risk of causing local irritations. It is also well recognized that the contractions of voluntary muscles are more or less sudden in their nature, while those of involuntary muscles partake of a slow worm-like character. The slow, undulating type of current generated by this apparatus makes it eminently suitable for the treatment of visceroptosis and chronic constipation when these conditions are due to want of muscular tone, and it is also frequently of use in restoring tone to the bladder.

It should be remembered that when it is desired to produce muscular contraction, as in the above-mentioned conditions and in exercising the muscles in infantile paralysis and in muscular wasting due to injuries or other causes, the rate of undulation must be as low as possible, while if the object be to stimulate nerve tissue, then the sinusoidal impulses should follow each other at a rapid rate.

The apparatus consists of a small rotary converter producing a three-phase current with minor waves, all of which are of the sine nature. The armature of the rotary revolves between magnetically energized poles, and the conductors upon it cut the lines of magnetic force at various angles, thus causing an electromotive force in each conductor. The current in turn is placed through primary coils, then transformed by three secondary coils to increase the tension of the secondary; the secondary winding may be moved over the primary coils.

Butter-Serving Machine

While I was recently visiting one of the large New York hospitals, my attention was called to a device which I had not heretofore seen in a hospital, and when I asked the guide what sort of a machine it was, I was told that it was a butter-cutter. On making further inquiries as to its usefulness, etc., I was informed that this machine was one of the best investments the institution had ever made in its kitchen department, and that it was effecting a saving for this particular hospital of from 5 to 6 pounds of butter a day. Now, this item alone, without considering the time-saving feature, is, as we all know, no small matter when one considers the present high price of butter. Thus it occurred to me that it might be worth while to bring this machine to the attention of the readers of these columns.

Sanitary butter cutter and serving machine.

Either print or tub butter may be used in this cutting and serving machine. The mechanism of the cutter is entirely enclosed, excluding dust, and the automatic action of the cutter stops the handling of the butter with the fingers, thus making the device absolutely sanitary. The cutter uses every speck of butter, leaving no broken patties and scraps, and, if tub butter is used, a simple device, which is furnished by the manufacturers, prepares for the cutter in fifteen minutes 60 pounds of butter and will not leave enough in the tub to spread on a slice of bread. The cutter holds 9 pounds of tub or 11 pounds of print butter, which is quickly inserted and cut into square patties. A stack of chips or plates is set under the cutter and a short stroke of the handle forces out and cuts off the patties, dropping them on the plate ready to serve. This is done in a fraction of a second.

The apparatus is heavily insulated and 1 or 2 cents worth of ice will keep the butter at the proper temperature all day. The outfit is 16 by 18 inches square and occupies about the same space as the usual butter bowl. The cutter is an attractive machine, white porcelain inside and out, and it can be easily and quickly cleaned.

The manufacturers claim that an additional and very interesting feature of the machine is the fact that it detects adulteration of butter with water, and affords protection against the purchase of water at butter prices. In one of the large Eastern cities, a butter-dealer was recently fined $200 for selling butter which he had adulterated with one part water to two parts of butter.

Taking into consideration the various good qualities of this device, we believe that it will merit the attention of hospital administrators generally.

X-Ray Reducing Camera

That a roentgenologist will frequently want to make photographic reduction of his x-ray negatives for lantern slides and for presentation to his patients and to the surgeons who send patients to him is naturally to be expected, and so the x-ray reducing camera shown herewith, as recently developed by the Eastman Kodak Company, will come as a great help and will fill a distinct need. With this instrument plate adaptors or kits, as they are called, are provided for holding x-ray plates, 14 by 17 inches, 11 by 14 inches, 10 by 12 inches, 8 by 10 inches, 6½ by 8½ inches, and 5 by 7 inches in size which can be reduced to 5 by 7 inches or 3¼ by 4 inches, the standard lantern-slide size.

The camera can be easily assembled and can be used in a room of ordinary size on the top of an ordinary desk or table. When disassembled for storage purposes it takes up very little space. As shown in the illustration the camera contains a long bellows, at the larger end of which are placed the x-ray negatives, and at the other or smaller end what is in fact, an ordinary lantern-slide camera. An illuminator, as it is called, which is equipped with a 100-watt, 110-volt bowl frosted-tip tungsten lamp, is fitted behind the place for the x-ray negatives at the larger end and is separated from the negatives by an opal glass plate. The entire instrument is mounted on a wooden base, which is built in sections held together by dowel pins which can be easily separated for packing purposes.

The lantern-slide camera has a bellows capacity of 36 inches and can, of course, be used as a separate unit for ordinary lantern-slide and copying purposes, if so desired. Spring finger kits for the lantern-slide camera itself may be provided, so that lantern slides can be made from photographic negatives varying from 5 by 7 inches to 3¼ by 4¼ inches in size. The center compartment is fitted with a lens board which can be removed and placed in front of the camera when the lantern-slide camera only is used for copying purposes. The 3¼ by 4 inch lantern-slide holder

provided with the instrument is adjustable, so that any oblique lines in the negative may be brought into correct position on the lantern slide. Focusing is accomplished by heavy milled heads engaging a rack and pinion with locking device for securing the back in any required position. The movement of the center compartment is also controlled by a milled head with lock nut for holding the center section securely in position. The lens is of the high-grade Kodak anastigmat f. 7. 7 type.

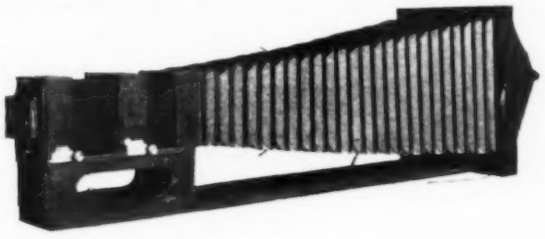


Fig. 1. Reducing camera that permits a roentgenologist to make photographic reproductions of his x-ray negatives for lantern slides.

The x-ray reducing camera is very easy to operate. In fact, all one need do is place the x-ray negative in its place at the large end of the large bellows, plug in the illuminator on the ordinary house-lighting circuit, focus the camera on the ground glass of the plate or lantern-slide holder and then make the exposure. The lantern slides can then be developed in the usual way for lantern-slide plates.

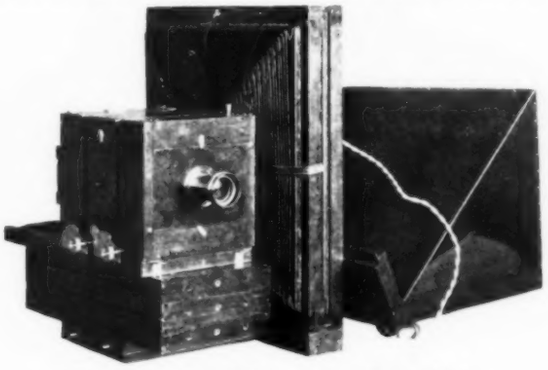


Fig. 2. X-ray reducing camera disassembled.

Electric Motor Chair

The electrically propelled motor chair should find a useful place in many sanatoriums and hospitals. The chair here shown is one which is designed particularly from the viewpoint of ample power with perfect safety and simplicity in operation. One feature of safety with is especially to be commended is that of the control device which is used.

Controlling may be accomplished either by hand or foot with one lever, which is connected with the brake and as the power is turned off, the brake is automatically set. The car is equipped with a guard, which extends in front, and, coming in contact with any obstacle, breaks the circuit between the battery and motor, at the same time applying the brakes. It is apparent that in the hands of the most inexperienced no damage could be caused by confusion on the part of the driver.

The frame of the chair is made of 1½ inch steel channel, all parts being welded. The wheels have pressed steel hubs with ball-bearings and are equipped with 20-inch cushion rubber tires or pneumatic tires, as may be desired. The motor is, of course, of special design of such proportions that it will handle the car with two occupants, supply plenty of power. The storage battery is of the Standard Vehicle type and is supplied in two sizes, 150 or 200 ampere hour capacity. The speed of the car with occupant ranges from 4 to 8 miles per hour. Two head lights, a lock switch and a top complete the equipment.

Mills electric motor chair.

A Motor-Operated Therapeutic Machine

The Sanitarium Equipment Company has developed a motor-operated magneto which produces alternating current for medical purposes, including hydro-electric baths and automatic exercise.

The equipment consists of an insulated table on which are mounted the driving motor, the magneto which generates the sinusoidal current, the interrupter, the speed and current controls, and the connection posts.

A motor suitable for the particular current from the lamp socket is supplied. This motor drives the magneto through a leather-insulated friction disc. Speed is regulated and controlled by a handscrew which moves the motor on sliding base rails to change the relative position of the friction disc on the motor shaft to the friction wheel, on the generator or magneto shaft. The nearer the center of the disc to the point of contact of the wheel, the slower the speed of the magneto.

Combination sinusoidal apparatus, showing details of interrupter, current controller, and magneto.

The current generated by the magneto is alternating. It is made and broken by a silent chain drive interrupter which always acts at the same point in the wave in order to make the current painless. By the addition of a rotary converter on the magneto the cycles of the sinusoidal current flow in the same direction, producing its characteristic waves. This current is thoroughly insulated from that supplied to the motor via the lamp socket, and there is complete insulation to prevent the current supplied to the motor reaching the patient.

Surgeon-General Calls on American Red Cross to Supply Army of Nurses

Five thousand more nurses must be recruited for service in the American military hospitals within the next two and one-half months. Surgeon General Gorgas, of the United States army, has called on the American Red Cross to supply this number for the Army Nurse Corps by the first of June. These 5,000 nurses are needed for service in military hospitals both in the United States and abroad. Altogether 35,000 nurses must be enrolled for the Government this year.

Nearly 7,000 nurses already have been supplied by the Red Cross, as a reserve for the Army and Navy Nurse Corps, since the United States became a participant in the war; but as the war progresses the imperative need for a greater army of nurses grows daily.

According to a statement made by Surgeon General Gorgas, it is estimated that there are between 80,000 and 90,000 registered nurses in the United States.

An appeal to the nurses of the country for volunteers to meet the call of the surgeon general of the army has been issued through Miss Jane A. Delano, director of the Bureau of Nursing of the American Red Cross.

The nursing situation in its present aspects is fully set forth by Miss Delano in the following statement:

VOLUNTEER NURSES WANTED

"An earnest appeal is made to the nurses of the country to volunteer for this service. We also appeal to the public and to the physicians employing these nurses to aid in making it possible for them, without too great financial sacrifice on their part, to hold themselves in readiness to respond to the call of their country. It has been brought to the attention of the Red Cross that families and hospitals employing nurses have occasionally hesitated to employ Red Cross nurses lest a change be made necessary by the withdrawal of the Red Cross nurse for the service of her country. This situation is most unfortunate, and any Red Cross nurse definitely selected for service with a unit, awaiting assignment, will, on her own request, be given temporary duty by the Surgeon General in one of our own military hospitals.

"We wish also to bring to the attention of nurses the unusual opportunities offered by the insurance law enacted for the protection of our army and navy. The provisions of this insurance bill apply equally to nurses assigned to duty as members of the Army and Navy Nurse Corps, and make it possible for the nurse to secure, at nominal rates, protection for herself as well as for designated members of her family dependent on her.

"A great responsibility rests on the nurses of the country. They are the only group of women recognized as a part of the military establishment. While thousands and thousands of nurses will be needed, the number is relatively small compared with the number of women in America who should stand back of them and make possible the service for which they are so greatly needed at this time.

MUST PROTECT THE NURSES

"The nurses who share in the hardships, the dangers, and the privations incident to war should be looked on as the representatives of the womanhood of America at the front, and these women who stand ready to sacrifice all, even their lives if necessary, should receive the sympathy, the support, and the interest of the millions of women whose husbands, brothers, and sons are fighting for the safety of the country. Not only should the women of the country encourage nurses who have this blessed opportunity for service to volunteer promptly, but they should make every effort possible to protect the nurses holding themselves ready for service and share with them the responsibility and sacrifices necessary.

"A special appeal is made therefore to the nurses of America to volunteer at once through their nearest local committee on Red Cross Nursing Service, through the director of the Bureau of Nursing in their division, direct to Red Cross headquarters, Washington, D. C., or to the Surgeon General's office, War Department, Washington, D. C."—Red Cross Bulletin, March 18, 1918.

IMPRESSIONS OF A MILITARY HOSPITAL

Courage and Heroism of the Disabled Patients in the Wards

By ELLEN KNIGHT, Toronto, Canada.

One military hospital in Canada is a former residence donated by a millionaire for the treatment of returned soldiers with spinal maladies. The first exclamation of every visitor is "What a beautiful place!" And so it is; a lawn and fine trees surround it; its interior is shining white and gold. There are flourishing conservatories, a Moorish room, and a billiard room specially fitted up for the use of the invalided men. There is a fine chamber organ in a large open hall, upon which a skilled musician gives recitals daily. There are excellent nurses, special electrical treatments, everything, in a word, that wealth and generosity could give has been bestowed upon this place without stint.

But the human misery remains. The most normal-appearing set of inmates are the men who play poker all day long and every day in the Moorish room off one of the conservatories. Yet all of them sit or recline in wheeled chairs or couches.

One of the cheery men of the hospital is a great knitter of socks; he has made seven pairs up to date. He can sit up only in a steel case that takes all the weight of his body off the spine. The very best this man can look forward to is possibly going on crutches in a year or two. He will be maimed for life, as, indeed, will every soldier in this hospital. Yet he has a lame wife and three children.

A well-educated young Welshman—his people are across the ocean—regards you with mournful, dusky eyes. He has shrapnel in the brain for which it is impossible to operate, and as a result he is semiparalyzed and so afflicted with aphasia that his poor mind gropes for words as a child fumbles in the dark.

Probably the finest man is an emaciated wreck, who reels slowly back and forth when he tries to stand and whose paralyzed, useless hands stick out in strange, distorted postures. Yet he is an inveterate, cheery joker, the irrepressible monkey of the hospital. And this despite the fact that he endures horrible suffering.

Poor young Tommy was very pitiful. He had been on his back nineteen months, an unhealed wound, and his face was wan or white like a woman's with brilliant dark eyes. But he used to laugh when one talked to him and he always put his poor thin hands above the bedclothes to clap the daily music as best as he might. He was very sweet, poor young Tommy, now gone to the eternal rest. Before he died he longed to go to his home, and somehow they managed to get him there, but only just in time.

The distractions of the bed-ridden men are diverse and sometimes surprising. Some read, one divides his time between a flute and a typewriter; one embroiders very beautifully and has two prize certificates for his work; one knits sweaters. He has children and earns a little money for them so. Yet the time is difficult to put in.

There is sorrow for those who have died in Flanders, France, Gallipoli that they might achieve great ultimate good for posterity. But what of those that survive who will have to suffer as long as life endures? One can only feel that the new world that comes must prove worthy of such a sacrifice.

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CONTRIBUTIONS.—Original articles on any problems of practical interest to our readers are respectfully solicited from those who can write authoritatively on hospital architecture and equipment, institutional efficiency, and administrative medicine. Articles are accepted for publication with the understanding that they are contributed solely to THE MODERN HOSPITAL. French and German articles will be received and translated free of charge if found desirable for publication.

ILLUSTRATIONS.—Such half-tones and zinc etchings as in the judgment of the Editors are necessary to illustrate articles will be furnished when photographs, drawings, or ink tracings are supplied by the author.

NEWS MATTER.—Our readers are requested to send in items of news, and also marked copies of newspapers containing matters of interest to those engaged in hospital work. We shall be glad to know the name of the sender in every instance.

SUBSCRIPTION BLANK.

The Modern Hospital Publishing Co., Inc.,
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NEWS OF THE HOSPITAL FIELD

Eastern States

The name of the Eddy Road Hospital, Cleveland, O., has recently been changed to "St. Mark's Hosiptal."

A campaign designed to raise $50,000 was launched by the Emergency Hospital, Washington, D. C., March 10.

The question of establishing a tuberculosis hospital will soon be submitted to the voters of Washington Count, Vt.

The Allegheny County (Pa.) commissioners are considering the erection, near Pittsburgh, of a hospital for contagious diseases.

Construction work will be started in Auburn, N. Y., this spring on a 100-bed hospital for the Sisters of St. Francis, of Syracuse, N. Y.

The directors of the Monroe County Hospital at Stroudsburg, Pa., have decided to erect a large addition to plant of that institution in the near future.

The city of Parkersburg, W. Va., is having plans prepared for a new home for the Parkersburg City Hospital. Accommodations for about 50 patients will be provided.

The Hudson street hospital of the New York Hospital Society, New York City, has been taken over by the Government and will be operated for military patients only.

A new children's ward, donated by Dr. and Mrs. Charles Parker Bancroft, has recently been opened by the New Hampshire Memorial Hosiptal for Women and Children, Concord, N. H.

A bequest of $100,000 for the erection and maintenance of a hospital in Middleboro, Mass., is contained in the recently probated will of the late Maria Louisa Harlow Pierce, of that city.

Contracts have been let for two new cottages for the Pennsylvania State Institution for Feeble-Minded Women, which the state is establishing at Laurelton. The cost of the two buildings will amount to $89,000.

Dr. George Gray Ward, Jr., professor of gynecology at Cornell University Medical College, has been appointed chief surgeon and surgical director of the Woman's Hospital, New York City, to succeed Dr. Clement Cleveland, resigned.

A movement has been started in south Baltimore for the establishment in that section of the city of a large general hospital, and it is reported that the enlargement of the South Baltimore Eye, Ear and Throat Hospital for that purpose is being considered.

The medical department of the army has announced that sanatoriums for the treatment of soldiers suffering from tuberculosis are to be established at New Haven, Conn., Prescott, Ariz., Asheville, N. C., and Denver, Colo. The sanatoriums will cost about $550,000 each.

Miss Mary L. Hench, of New York City, has been elected superintendent of the Millville Hospital, Millville, N. J., to fill the vacancy caused by the resignation of Miss Clara Collins. Miss Ruth Avis, of Woodbury Heights, N. J., will serve as assistant superintendent under Miss Hench.

Dr. Thomas I. Price, assistant medical superintendent of Kings County Hospital, Brooklyn Borough, New York, has recently been placed in charge of Greenpoint Hospital in the same borough, succeeding Dr. John E. Dougherty, who was transferred to another post under the Depart-

ment of Charities, by which both the Kings County and Greenpoint Hospitals are controlled.

Mr. Bradley S. Joice has been appointed superintendent of the Industrial Home for Crippled Children, Pittsburgh, Pa., to fill the vacancy caused by the resignation of Mr. Lyman S. Mevis. For the last eight years Mr. Joice has been connected with the Western Pennsylvania Institution for the Blind. He is a graduate of Cornell University.

Eugene Horton, millionaire leather merchant of New York City, who died March 10, left $600,000 for the purpose of founding a hospital at Middletown, N. Y., where he resided. The hospital is to be a memorial to Mr. Horton's mother and will be known as the "Elizabeth A. Horton Memorial."

Middle States.

The East Side Hospital, Toledo, O., will erect this spring a separate ward for contagious cases.

The name of the German Hospital, of Chicago, has recently been changed to "Grant Hospital."

A new modern home for the Pekin Public Hospital, Pekin, Ill., erected at a cost of $40,000, was opened in March.

A new hospital, erected at Grand Rapids, Minn., by Itaska County, at a cost of $50,000, will soon be ready for patients.

The Chicago Union Hospital, at the close of the war, will erect a 4-story fireproof addition, having a capacity of 150 beds.

Drs. D. W. and Warren McCrary, of Lake City, Ia., are reported to be arranging to establish a private sanatorium at that place.

More than $75,000 has been subscribed at Grinnell, Ia., in a campaign to raise a fund for the establishment of a community hospital.

St. Francis Hospital, Wichita, Kas., has lately purchased a plot of ground on which it is reported the institution will build a large annex.

A tuberculosis sanatorium for Waukesha County, Wis., has lately been completed near the village of Pewaukee. The cost was approximately $32,000.

Mr. Jasper Wayne has disposed of his interest in the hospital at West Union, Ia., and will assume the management of the Home Hospital at Waukon, in the same state.

Dr. J. W. Freeman, chief surgeon of the Homestake Mining Company Hospital at Lead, S. D., is retiring from active work after 34 years of continuous service in that institution.

Dr. Henry B. Stehman, for fifteen years superintendent of the Presbyterian Hospital, Chicago, died recently in Pasadena, Cal. Dr. Stehman left Chicago in 1900 because of ill health.

A 40-bed hospital in course of construction at Ladysmith, Wis., for the Mantellate Sisters is expected to be ready for patients early this spring. The institution will be known as St. Mary's.

Miss Lavina Dietrichson has resigned her position as supervisory nurse and matron at the Blue Mound Sanatorium, Wauwatosa, Wis., after an incumbency of five years. She is taking up similar work at LaCrosse.

Dr. Ellen M. Osborn, for more than 25 years a practicing physician in St. Louis, and founder of the Ellen Osborn Hospital, died at the Mayfield Memorial Hospital, St. Louis, March 8, of cancer. The hospital which Dr. Osborn established and conducted was destroyed by fire about a year ago.

The name "German" has been discarded by the former German Hospital, Kansas City, Mo., and that institution will hereafter be known as the Research Hospital of Kansas City. The hospital has a fine, new laboratory, housed in a building erected especially for laboratory purposes at a cost of $30,000.

Provident Hospital, Chicago, has closed successfully a campaign which had for its object the raising of $15,000 to be used in free dispensary and social service work

among the negroes of the second ward in that city. Plans are being made by this institution to open a post-graduate school for both negro and white doctors.

Ground will be broken in Topeka, Kas., in May for the first of eight buildings that will be erected in that city within the next five years by the Knights and Ladies of Security, to comprise a large home and hospital for dependents of the order. The ultimate expenditure for the project is estimated at approximately $1,000,000.

Plans have been completed for a new home for the Lutheran Hospital at Beatrice, Neb., but the directors of the institution are undecided as to having the building erected before the close of the war. The new hospital, in the event that it is finally built according to the present plans, will have accommodations for 80 patients.

From the recent sale of land bequeathed to LaHarpe, Ill., by Miss Mary Davier, who died in 1910, the officials of that city have received about $30,000, with which to establish a hospital, but on account of the prevailing high prices of building material, no definite steps have yet been taken toward providing a home for the institution.

The City Hospital-Sanatorium, Kalamazoo, Mich., has lately been purchased by Kalamazoo County, and will hereafter be operated as a county institution, under the name "Fairmount Hospital." Mr. James E. Broyles, business manager of the Bronson Hospital, Kalamazoo, has been chosen by the county to serve the Fairmount Hospital in a similar capacity.

Dr. Middleton L. Perry, for the last fifteen years superintendent of the Parsons (Kas.) State Hospital for Epileptics, has recently been appointed by the Kansas State Board of Administration to succeed the late Dr. Thomas C. Biddle as superintendent of the Topeka State Hospital for the Insane. Dr. O. S. Hubbard, of the staff of the Parsons hospital, is taking Dr. Perry's place in that institution.

An appropriation of $12,000 has recently been made by the Wells County (Ind.) Council for the completion of the new Wells County Hospital, on which construction was started last fall. The cost of the building was originally estimated at $30,000 and that sum was appropriated before the work was started, but increases in the price of materials, it is said, will bring the necessary outlay up to $42,000.

The erection of an additional hosiptal for Milwaukee County, Wis., is recommended by a committee appointed by the County Board to investigate hospital facilities in the county, including the city of Milwaukee. According to the report, this new hospital should have a capacity of at least 500 patients. It is suggested that the institution should be known by some other name than "county hospital," and that it should be open to pay and part-pay patients, according to the financial ability of the person making application for service.

The Methodist Hospital Association, which operates the Methodist Episcopal Hospital at Indianapolis and the Princeton Sanatorium at Princeton, Ind., has submitted a proposition to the people of Fort Wayne, Ind., to contribute the sum of $125,000 toward establishing a hospital in that city provided subscriptions to the amount of $100,000 are secured in Fort Wayne. The plan contemplates the purchase of the Ways Sanitarium building in Fort Wayne, owned by Dr. A. H. Macbeth, and the remodeling of that structure to suit the needs of the proposed new institution.

Southern States

The state of Texas is building at Rusk a hospital for insane negroes.

A new hospital is being planned for the Berachah Home at Fort Worth, Tex.

The Dupont Engineering Company is building a hospital at Hadley's Bend, Tenn.

A 20-bed addition will be erected to the Georgia Infirmary at Savannah this spring.

The first unit of the Central Texas Baptist Sanitarium, a new instituiton being established at Waco, Tex., is expected to be ready for patients by August 1, of this year.

This building will cost about $150,000 and will afford accommodations to 150 to 175 patients.

A hospital is being erected by the Alabama Power Company, Birmingham, Ala., for its employees.

Plans are being drawn for a new ward for negro patients at the Protestant Hospital, Norfolk, Va.

The New Bern General Hospital, a new, private institution, was opened at New Bern, N. C., in March.

A new emergency hospital was opened at Sylacauga, Ala., last month, by the Eva Janes Mills, operating at that place.

It is reported that the city of Yoakum, Tex., will hold an election on a $50,000 bond issue to build a municipal hospital.

A bequest of $20,000 to the Tuomey Hospital, Sumter, S. C., is provided in the will of the late E. P. Rocker, of that city.

A movement to build a tuberculosis hospital has been launched at Ft. Smith, Ark., by the local anti-tuberculosis association.

A new home for the nurses of the North Carolina State Tuberculosis Sanitorium near Aberdeen will be erected this spring.

Pulaski, Tenn., is to have a $12,000 hospital in the near future if plans of the Giles County Medical Society are carried out.

Plans have been approved for a new modern laundry for the Woodlawn Hospital, Dallas, Tex., maintained jointly by the city and county.

The Oklahoma State Baptist Hospital Association will soon let contracts covering the erection of a hospital at Miami, estimated to cost $100,000.

A proposition to issue bonds to the amount of $30,000 for the erection of a county hospital at Bay City, Tex., was defeated at a recent special election.

The "Home Hospital and Sanitarium" is a new corporation at Sand Springs, Okla. Dr. George C. Campbell, of Anadarko, Okla., is one of the promoters.

Mayor Litty, of Memphis, and the commissioners of Shelby County have appointed a commission to direct the erection of a city and county tuberculosis hospital.

The trustees of the Matty Hersee Hospital at Meridian, Miss., are planning either to build a new home for this institution or to remodel and enlarge its present quarters.

The Board of Managers of the East Texas Asylum for the Insane, at Rusk, has lately received bids for the erection of an addition for which an appropriation of $150,000 is available.

Dr. Mary E. Lapham, superintendent of the Highlands Camp Sanatorium, Highlands, N. C., has received an appointment from the American Red Cross to do tuberculosis work in France.

Construction work will be started shortly on a new building for the Illinois Central Railroad Hosiptal at Paducah, Ky., the former home of the institution having been burned last July.

Drs. C. Q. West, W. W. Burnett, S. C. Glover, and others, have incorporated the Greenville General Hospital at Greenville, S. C., for which they propose to erect a modern building.

The Booker T. Washington Memorial Hospital is a new corporation at Little Rock, Ark., organized by Drs. J. O. Hickman, J. M. Robinson, G. W. Ish, and others. The capital stock is $10,000.

Dr. Charles D. Cleghorn has been appointed superintendent of the Macon Hospital, Macon, Ga., succeeding Mr. O. E. Nicholls, who resigned to enter the service of the American Red Cross in France.

Drs. Baird and Dulaney, who operate the Baird-Dulaney Hospital, formerly the Hosmer Hospital, at Dyersburg, Tenn., have recently purchased a beautiful 16-room residence to be used as a home for their nurses.

Dr. C. D. Mitchell, of Pontotoc, Miss., president of the State Board of Health, has been appointed superintend-

ent of the Mississippi State Hospital for the Insane, at Jackson, following the resignation of Dr. R. M. Butler.

Contruction work has been started on a new home for the Alexandria Sanitarium, Alexandria, La., which has lately been acquired by the Louisiana Baptist Convention. The building will be a 4-story fireproof structure, 40x90, costing $70,000.

Bids are soon to be invited on the work of building at Houston, Tex., the proposed Hermann Charity Hospital, which has been in contemplation for several years, funds for establishing the institution having been bequeathed by the late George Hermann, of Houston.

The City of Knoxville, Tenn., awarded contracts in March for remodeling a building for a nurses' home and maternity ward at the Lincoln Memorial Hospital, which has lately been acquired by the city, and for the installation of a central heating plant for the Knoxville General Hospital.

Dr. S. Webb, chief surgeon of the Missouri, Kansas & Texas Railroad, is quoted by the Dallas (Tex.) *News* as saying that this road will probably build a hospital in Dallas in the near future. Sick and injured employees are now being treated by the company's doctors in leased quarters at the St. Paul Sanitarium.

A fund amounting to $100,000 has been raised at Palm Beach, Fla., to establish a community hospital. Wealthy persons from the North, having winter residences in Palm Beach, took an active interest in the campaign. Mr. A. F. Huston, President of the Lukens Steel Company, of Coatesville, Pa., and one of the founders of the Coatesville Hospital, is chairman of the board of directors elected to establish the institution at Palm Beach, which will be called the "Good Samaritan Hospital."

The Macon Hospital, Macon, Ga., which has lately moved into new quarters, is adopting a new schedule of rates. In the old hospital the private room rate was $3 a day or $20 a week. This has been advanced to $3.50 a day or $24.50 a week. In the pay wards the rate has been reduced from a flat rate of $2 a day for beds to $21.50 a week where a patient occupies a bed in the ward for a week or more. Other rates are practically the same with the exception of the charge of $10 for the use of the obstetric room. Before the construction of the new buildings no obsteric fee was charged, but in the old building there was no special room provided for obstetrical cases and no special equipment, these cases being attended in the operating room. In the new buildings there are now a few corner rooms for which the pay patient is charged $5 a day and two rooms twice the size of the regular rooms and with private bath for which the rate is $6 a day. The semi-private ward fee is $2.50 per day. Operating room fees remain the same, $5 for a minor operation and $10 for a major operation. The charge for bed or room includes all ordinary medicines or dressings.

Rocky Mountain and Pacific Coast States

The "Cottage Hospital" is a new, private institution at Richmond, Cal.

Contract was awarded in March for the erection of a $50,000 addition to Mary's Help Hospital, San Francisco.

Ground was broken in Denver, March 1, preparatory to the erection of a $150,000 addition to St. Anthony's Hospital, of that city.

St. Mary's Hospital, Goldfield, Nev., has recently moved into the building formerly occupied by the Miners' Union Hospital at that place.

The Acropolis Maternity Hospital, a new private institution having a capacity of 50 patients, was opened in East Oakland, Cal., March 1.

Dr. J. W. Doughty has been reappointed superintendent of the Northern Hosiptal for the Insane at Sedro-Wooley, Wash., for a term of four years.

Dr. Pike has resigned the superintendency of the Idaho Insane Asylum at Blackfoot, and Dr. R. B. Jackson of Sandpoint, Idaho, has been elected to succeed him.

Miss Roxie Honsberger and Miss Helen B. Engle, trained nurses, are opening a private hospital in Caldwell, Idaho.

The institution will be known as the "Caldwell General Hospital."

A new home for the Calumet & Arizona Hospital at Bisbee, Ariz., will be completed in April. The building is a fireproof structure, three stories high, and represents an expenditure of $175,000.

Dr. J. B. Blackshaw has recently opened a private hospital in a new building at Pittsburg, Cal. Miss Kennedy, a trained nurse, formerly connected with the Central Hospital, of Oakland, is in charge as superintendent.

The supervisors of Elko County, Nev., are having plans drawn for a 2-story brick and frame hospital and a 1-story frame infirmary, which they will erect at Elko this summer. Approximately $90,000 will be expended on the two buildings.

A new tuberculosis hospital to be known as "Aldersrest" was opened by Snohomish County, Wash., near the town of Snohomish, March 1. Dr. L. G. Woodford has been appointed physician for the institution, and Miss Grace Holmes, superintendent.

A complete new plant has lately been put into service by the San Bernardino County Hospital, San Bernardino County, Cal., and the name of the institution has been changed to "San Bernardino General Hospital." The new hospital has accommodations for 200 patients. Mr. Art. S. Guthrie is in charge as manager.

Contracts have been awarded for the erection of the first two units of a group of new buildings for the Nevada County Hospital, Nevada City, Cal. The cost of these two structures, comprising a women's ward and a dormitory for domestic help, will be $25,000. Three additional units to be built within the next five years are included in the plans.

United States Territorial Possessions

A new hospital erected at a cost of $100,000 and having a capacity of 104 patients, will soon be opened in Honolulu by the Japanese Benevolent Society.

The Kauikeolani Children's Hospital, of Honolulu, has recently opened a new home for its nurses. The building is a reinforced concrete structure two stories high and is said to be fireproof throughout, the doors and window sashes being of metal. The sum of $32,000 was expended in its construction.

STATEMENT OF OWNERSHIP, MANAGEMENT, ETC., REQUIRED BY THE ACT OF AUGUST 24, 1912

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(Signed) OTHO F. BALL,
President The Modern Hosiptal Publishing Company, Inc.

Sworn to and subscribed before me this 21st day of March, 1918.

(Seal) EDNA C. ROEDER, Notary Public.

My commission expires January 12, 1919.

Apparatus for Converting an Ordinary Rocking Chair into a Wheel Chair

The device illustrated here, which has been put on the market under the trade name of "Roll-a-Rocker," has been intended originally to meet only the demand of the public at large, but recently has been considerably improved by the addition of a foot rest and other refinements, so that it can now be used to advantage in the hospital also, not only from the standpoint of durability and easy adjustment, but as a conserver of floor space as well. Roll-a-Rocker is adaptable to any size or width of rocking chair, and is so arranged as to make it possible to allow the chair to recline at any angle most comfortable to the patient.

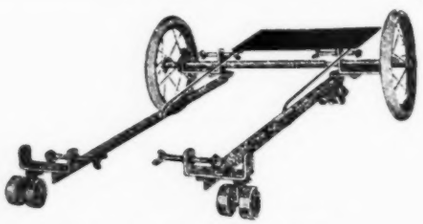

Fig. 1. Roll-a-rocker truck separate.

The apparatus is made entirely of metal, weighing 12 pounds. The frame is fashioned of angle-iron and is 24 inches long. The telescoped axle is pivoted to the side bars, thus making the device adjustable and collapsible.

The 3-inch clamp plates and swivel-headed bolts are leather-faced, and the spring brake is rubber-covered. The wheels are of metal, 8 inches in diameter, with ¾-inch solid rubber tires, capable of carrying a weight of 250 pounds. The rear wheels are double-swivel rollers, 2 inches in diameter, and are made either of steel, leather, or rubber. The metal foot rest and spring frame are also adjustable and collapsible, and the entire outfit can be folded into such a small space that it can be easily transported in a suit case.

Fig. 2. Roll-a-rocker truck attached to chair.

It is reported that the American Red Cross has appropriated the sum of $100,000 for research work. This report has been taken up and misrepresented by several agencies, anxious to belittle the work of this splendid organization. A society of antivivsectionists threaten injunction to restrain the Red Cross from using these funds, which they claim will involve the use of vivisection. On the authority of one of the state chairmen of the Red Cross, we hear that the $100,000 is to be used for the study and prevention of lice in the trenches. If this is the vivisection meant to be done, we certainly wish it success.